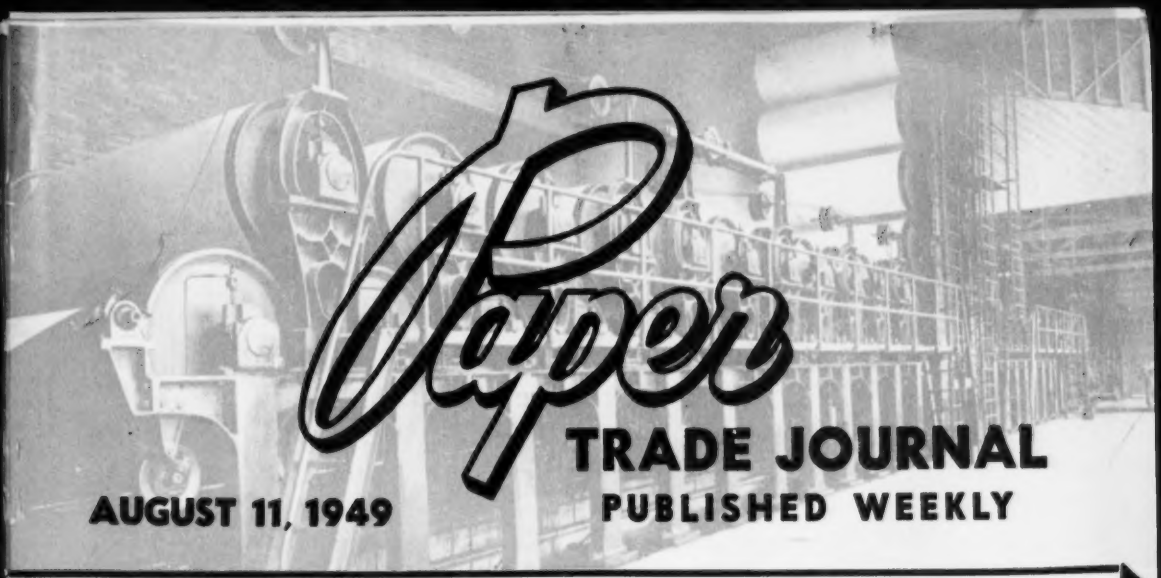

Paper TRADE JOURNAL

AUGUST 11, 1949 PUBLISHED WEEKLY

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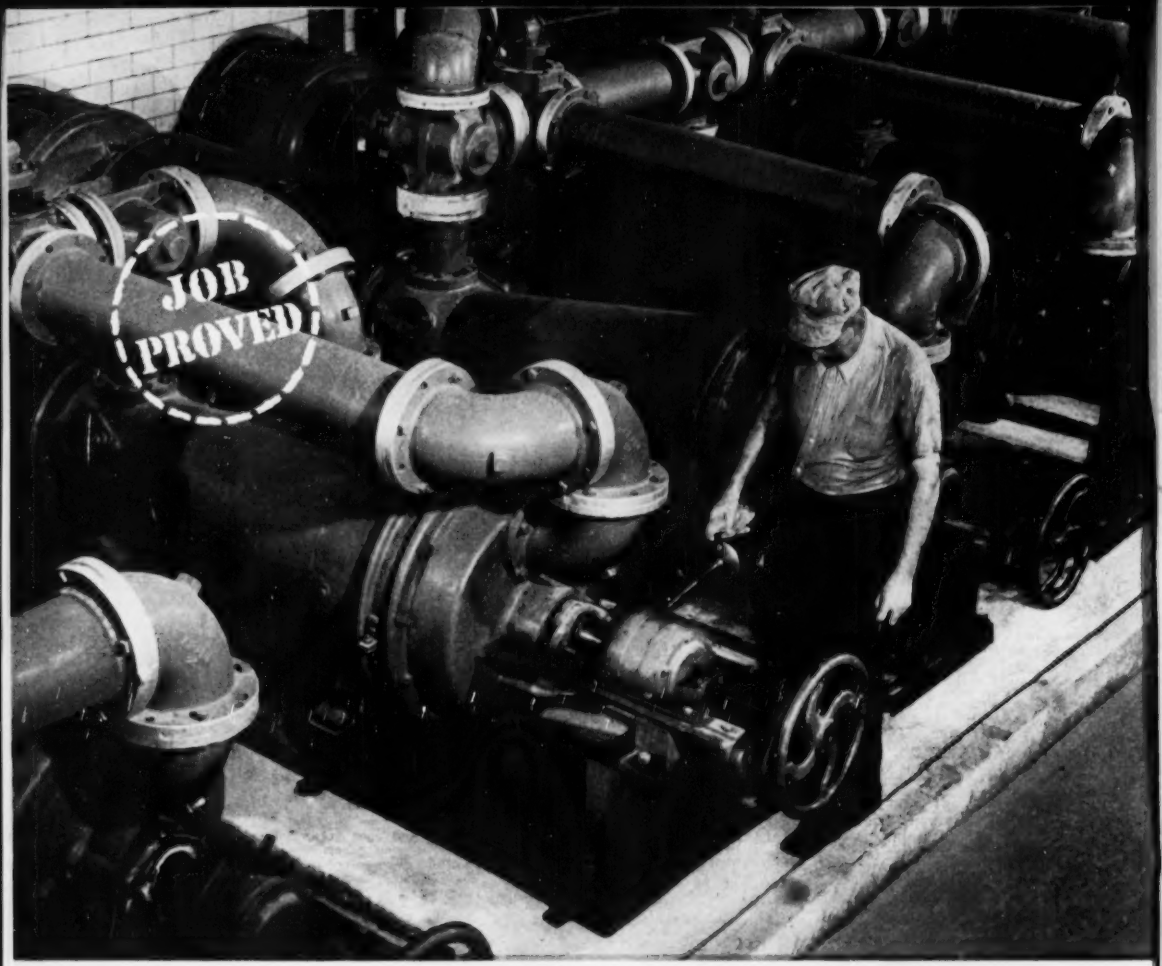

ENDS YEARLY BEARING LOSS OF $10,000

Paper Mill's Jordans, Burning Out Average of 2 Bearings a Week, Are Switched to Sun Oil, Run Almost 2 Years Without a Failure

The gear lubricant used by a paper mill in the bearings of its twelve Jordans was caking up. Bearings had to be replaced on an average of two a week—an estimated loss of $10,000 a year in parts and labor.

In an effort to stop this waste, the mill changed to a "Job Proved" Sun Paper Mill Lubricant. This product has been used for almost 2 years now, and there has not been a single failure due to lubrication—on either the original 12 Jordans, or the 26 that have been added. Thus the right product has stopped a needless expense, and saved maintenance time. Increased production has naturally followed.

This is an example of the way Sun "Job Proved" Products are serving industry everywhere. Each is made for a particular job, and rigorously tested under the severest operating conditions.

For information about what these products may do for you to help increase output and profits, call the nearest Sun Office. The services of a Sun Engineer are available without obligation.

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Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, Aug. 10, 1949.

Business Confidence Widens

The rebirth of business confidence noted by *Trends* during the past two weeks is widening in scope. Now of sufficient size to be openly acknowledged, the pickup in buying has provided a basis for optimism for the immediate future and a hope that "just around the corner" Fall business may pursue the upward turn.

Early reports of renewed buying came from nondurables with the hint that durables might be expected to decline further before an upturn. There are many who support this economic pattern and see the current pickup as of temporary nature; thus plans for the immediate future are mixed with caution. With Seneca, they "hope for the best and provide for the worst." Others who hold that we "talked ourselves into the recession through fear of Administration policies," now see business snapping back to normal peacetime levels with the *Fair Deal* stymied again. The "new note" which Presidential advisers anticipated would clear away uneasiness and business hesitation has been introduced into the business outlook.

D&B Defines Readjustment

Defining the period through which we have been passing as the kind of readjustment which invariably follows a period of intensive business activity, wide prosperity and shortages, D&B counts five such periods during the twentieth century and explains individual characteristics of each.

Each such "phase of the business cycle leads to a return to a condition of more or less balanced supply and demand," states D&B "Compass Points of Business." *This* readjustment comes after it has been expected for more than three years. Especially during the last year, many business men have said that the best that could be hoped for would be a reasonably orderly readjustment. During the same time that this has been hoped for, it has been going on. Some lines began their adjustment two years ago, others last year; some have already moved well toward the recovery phase.

After delineating the depth of readjustment made in each field of industry, the report concluded that, as of May, "manufactured durable goods have a large part of their 'readjusting' still to do."

NAPA Notes Recovery

Signs of business recovery were noted during July by the Business Survey Committee of NAPA. "In more than two-thirds of the plants surveyed by the Committee, production is either on the upgrade or holding to previous schedules. Booking of new orders reveals the greatest strength since the start of the decline in general business," reports Chemical Bank & Trust Company's "Trends."

In the durables field, purchasing men report that July 1 price concessions have provided a sound base for new inventory building. Wholesalers note heavy orders for brass products, standard machine screws, light machine tools, portable electric tools, shop supplies, paint, steel, lead and copper products, most of which are said to be for restoration of inventories to levels required for Fall buying. No speculative buying is seen.

Pulp Buying Flurry

The flurry of pulp buying which hit the New York market during the last ten days has sharpened competitive selling. Trading is reported as shrewd and zestful.

Described by some as the natural reconstruction of stocks after July shutdowns, by others as a reflection of reviving business confidence, the flurry is said to be shaking out of the hat some new prices which may bounce by the fourth quarter.

In numerous instances, consumer stocks are known to be at a level where immediate replacements are a *must*. To meet domestic competition for such orders, importers have prepared themselves by carrying moderate pier stocks or consignment; and it is learned that they are getting a fair share of the business, with the sale going to best price and best delivery.

Galvanized by the scent of sales after the long quietus, traders view records of amassing wood pulp stocks and start dickering for the business, with prices generally known to be well below quoted third quarter levels. Where orders are for smallish amounts as inventory replacements, price offers are likely to be fewer. But large orders also have been placed, with the mill specifying price and getting it. Generally, it is stated, wood pulp producers show no inclination to break prices to lower levels, but a sizable order weighed against their growing inventories has known advantages.

Swedish Position is Stable

Though the Swedish position is marked by the same zest for selling which characterizes all other groups, an undertone of stability is present. Swedish producers need all the business they can get without jeopardizing their other world markets, the British in particular, it is inferred. Current Swedish prices to the UK, refigured to short ton and *on dock* delivery, are reported to be $124 for bleached kraft, $121.50 for bleached sulfite, $92.50 for unbleached sulfite, $91 for unbleached kraft. A reduction of 150 kronor per ton is represented in these prices for the year's second portion, compared with those of early 1949, a British journal reports, and prices are at the "same level as those obtaining in the American and Continental markets." Prices for the year's remaining one-third are to be fixed later in the year.

Since further breaks in prices to the U.S. market will thus have to be reflected in other markets which are currently of larger potential, the Swedes are holding close to third-quarter quotations and a *delivered* basis, contrasted with other Scandinavian "on dock" prices.

It is held as a likely possibility within the trade here that a British cutback in Canadian woodpulp purchases because of currency difficulties might readily redound to the advantage of Swedish mills. Expansion of trade between the two countries was a part of the Anglo-Swedish Trade Agreement completed in Stockholm last June.

Waste Paper Rallies

A rally in waste paper buying also is reported in the New York area, with an inadequate supply of high grade kraft cuttings, kraft lined corrugated, white ledger, hard white tabulating cards. Added strength in white news-blanks also is noted. Prices of these grades are firm as quoted. Low bulky's are still weak with prices largely nominal.

Vacation Week Indexes

Ratio of production of unbleached kraft paper to potential mill capacity for that product was 66.5 percent for the week ended July 30, compared with 66.7 for the preceding week, and with 99.3 for the corresponding week of last year.

Comparative ratios of U. S. paper and paperboard production to mill capacity, as reported by AP&PA are:

	July 30 1949	July 23 1949	July 31 1948	Aug. 2 1947	Aug. 3 1946
Paper	84.7	‡83.2	96.5	103.9	105.2
Paperboard	80.0	76.0	92.0	99.0	98.0

‡ Revised.

Paperboard Production (Tons)

	July 30 1949	July 23 1949	July 31 1948
Production	162,831	158,764	178,892
New Orders	161,429	152,210	176,781
Unfilled Orders	268,530	271,741	358,955

Percent of Activity, Current, 80%; Year, 78%.

General Business Index

Index of general business activity for the week ended July 30 inclined to 139.8 from 137.2 in the preceding week, compared with 150.4 in the corresponding week of 1948. Index of paperboard production rose to 160.4 from 156.1 in the preceding week, compared with 177.5 in the corresponding week of 1948.

3 GOOD REASONS WHY APPLETON WIRES ARE GOOD WIRES

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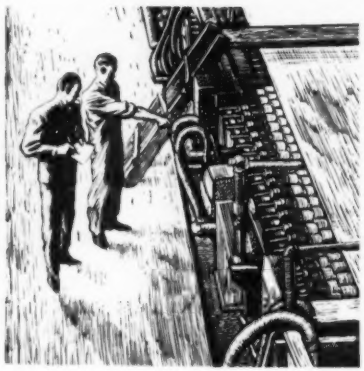

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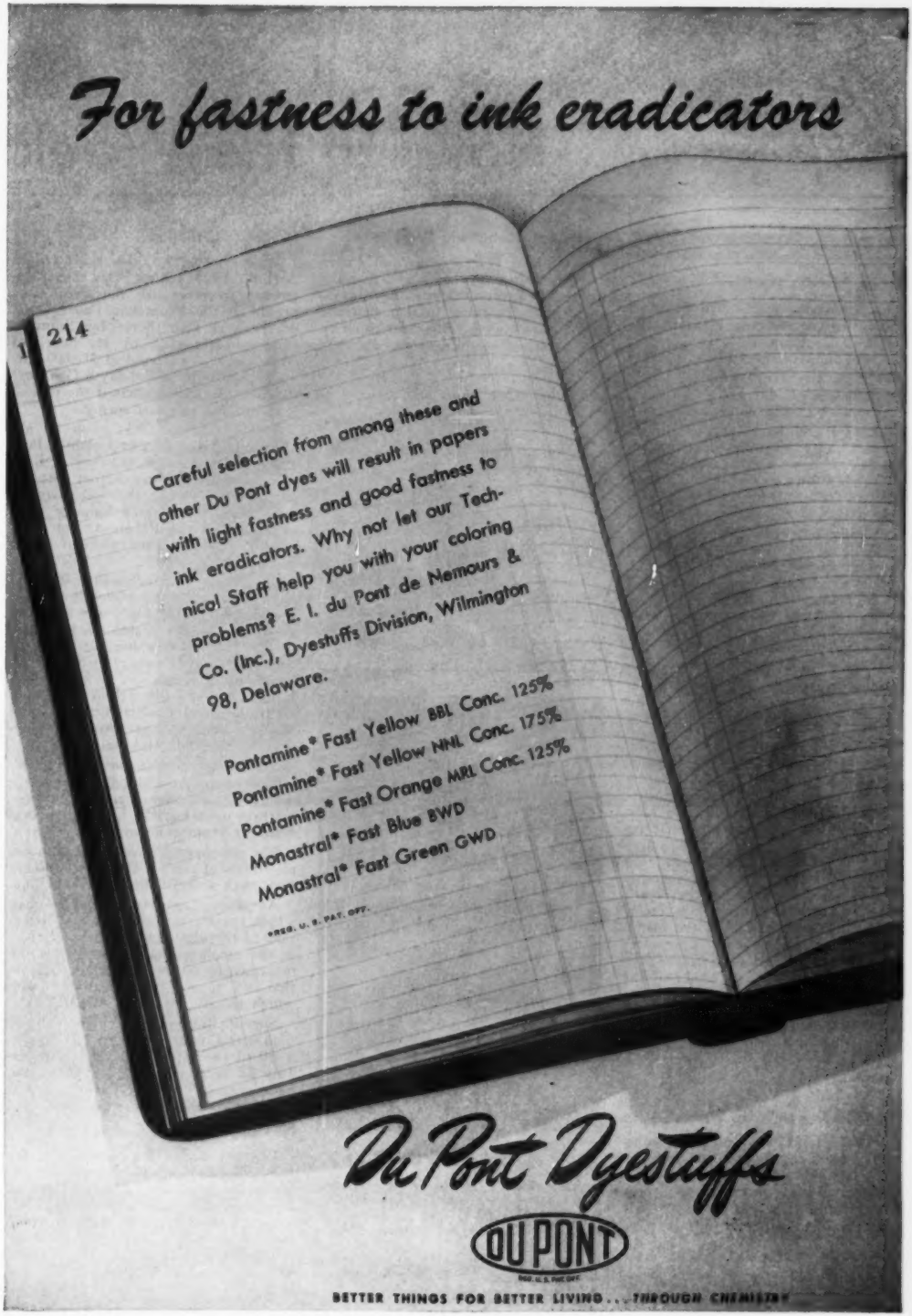
APPLETON, WISCONSIN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Paper TRADE JOURNAL

News of the Week

MILLS

Nekoosa-Edwards Elections

PORT EDWARDS, Wis. — The board of directors of the Nekoosa-Edwards Paper Co. was unanimously re-elected at the recent annual stockholders' meeting.

Directors are: Mr. Alexander, S. A. Casey, W. A. Radke, L. M. Hanks, A. S. Puelicher, and R. J. Kraut.

Officers in addition to Mr. Alexander are: Mr. Casey, secretary; Mr. Radke, treasurer; Harry Deyo, assistant treasurer and controller. The following executive departmental heads were also re-elected: N. E. Nash, vice-president; A. C. Remley, vice-president in charge of sales; C. H. Reese, vice-president in charge of manufacturing.

John E. Alexander, president and general manager, presented a comprehensive report of the operations, covering the major subjects of wood procurement, purchases, traffic, personnel, power, manufacturing, sales and finances.

Costly Flood Repair Job

HOUSATONIC, Mass.—The Rising Paper Co. has spent $250,000 in the past six months, while the town of Housatonic has spent an additional $110,000, to repair damage caused by the New Year's Eve flood, and to prevent a recurrence during future flood stages on the Housatonic River. Rising has completely changed its canal raceway and the State has changed the river's course. Water now runs in flues underground to a point north of the manufacturing end of the plant. The water is stored in two 24-foot concrete penstocks for distribution to either of the water wheels to generate power. The old canal wall was rebuilt before the area was filled in, and the coal trestle is being replaced in the same location with a concrete unloading area at the rear of the mill.

Four Canadian Mills Up Wages

QUEBEC—Four pulp and paper companies signed a new contract with the IBPS & PMW (AFL), on July 27, providing for pay increases of one to three cents an hour. The companies are the Anglo-Canadian Pulp & Paper Co., Quebec; Lake St. John Paper Co.; St. Lawrence Paper Co. of Three Rivers, Que., and McLaren Co. of Buckingham, Que. Mechanics now will receive $1.35 an hour and helpers $1.13.

Hammermill Lengthens Work Week

ERIE, Pa.—The Hammermill Paper Co., which recently resumed a five-day week after several months of 4⅔ days' operations, reports a further increase to 5⅔ days a week. This near-capacity operation will continue until further notice.

NEFP, Inc., One-Week Shutdown

NORTH WILBRAHAM, Mass.—New England Forest Products, Inc., paper manufacturer and successor to the defunct Collins Mfg. Co., closed down on August 1. David Shapleigh, general manager, said the layoff was only for one week.

Tarentum Plant Resumes

TARENTUM, Pa.—Tarentum Products Corp. is resuming operation of its paper mill, idle for repairs since June 20, when extensive damage was caused by a severe rain, wind and electric storm.

JOHN C. WOOD

—vice-president in charge of manufacturing of the Kalamazoo Vegetable Parchment Co., Kalamazoo, recently notched his twenty-fifth year of service with the company. He is vice-president of Zone "C" in the National Ass'n., of Foremen, a TAPPI member, and a director in the Pulp & Paper Manufacturers Ass'n.

Frontenac Litigation

WATERTOWN, N. Y. — Hayward B. Arthur, local realtor, has been appointed receiver of the rents and profits of the Frontenac Paper Corp. of Dexter, near here, by Supreme Court Justice Clifford H. Searl of Syracuse, under a bond of $10,000 furnished by the U. S. Fidelity & Guaranty Co. Mr. Arthur purchased the mill at a village tax sale last spring.

The appointment was made on application of the Dexter Sulphite Pulp & Paper Co. through Attorney A. Raymond Cornwall, in connection with the suit started during the week ending July 23 by the Dexter Sulphite company against the Frontenac company, et al, to foreclose a mortgage of nearly $78,000.

A warrant of attachment upon sufficient property of Frontenac to satisfy a claim of 78 employes for $7,882.99 in wages for the month of June and up to July 9, has been granted by Supreme Court Justice Clifford H. Searl of Syracuse in a proceeding brought against the Frontenac corporation by the Industrial Commissioner of New York through Attorney General Nathaniel L. Goldstein.

Milton Goldberg, supervising industrial investigator under the state minimum wage law came here to serve the warrant upon Carl E. Lincoln, general manager of the company.

The papers in the case set forth that all efforts of the 78 employes to obtain their back wages have been unavailing.

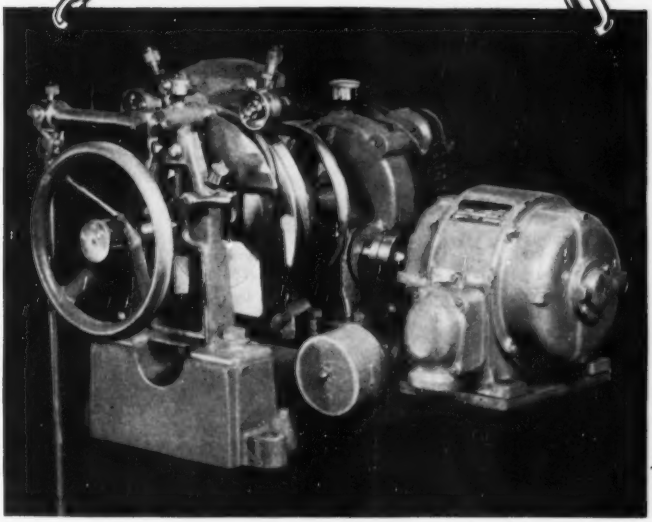
An affidavit of Mr. Goldberg, upon which the warrant was granted, states that from July 9 to 19 representatives of the employes have been repeatedly informed by General Manager Lincoln that no money was available with which to pay the wage claims.

Sheriff Braton E. Peck on July 23 filed with County Clerk Fred H. Moore a list of the paper attached by him on July 22 to guarantee payment of the back wages.

New England Paper Orders Up

BOSTON—Signs of a comeback in the New England paper industry are reported by the Federal Reserve Bank of Boston. In its monthly review of business, the Bank reported that the paper industry showed a four percent gain in orders from April to May. The paper upswing came as industry as a whole in New England continued to register declines.

STARTS PAYING OFF FROM THE MOMENT IT'S INSTALLED



Bird Regulators Are Going In All Over The Place

— on pulp ahead of knotters and flat screens, at thickeners before bleaching, at pulp drying machines ahead of brown stock washers, on paper stock at the Jordans, at stuff chests and machine chests, after plunger or centrifugal pumps.

That's what users tell us about the Bird Consistency Regulator. It is false economy indeed to try to get along without dependable, automatic consistency control, these days.

With the Bird Regulator, consistency is never more than 0.1% off line either way, whether the stock is less than 1% or as heavy as can be pumped. The Bird Regulator stays on the job day in and day out, without attention. It's easy to install, anywhere.

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BIRD MACHINE COMPANY

SOUTH WALPOLE • MASSACHUSETTS

Holyoke Mills Escape Wartime Economy Hangover

HOLYOKE, Mass. — Reaction to the high-flying economy of wartime and the early postwar years has not made any appreciable mark on the paper manufacturing industry here, a survey discloses. Firms canvassed included 13 in the paper and paper converting fields, which showed a drop of only 4½ percent in employment in the past year. Manpower being used amounts to 11 percent less than the 1948 figure.

The paper plants in question are employing a total of 3,719 persons today, as compared with 3,897 last year. Today there are 18,372 man days per week being expended, against 20,772 in the same concerns last year.

Fine writing paper appears to have borne the brunt of the drop in demand among manufacturers and converters of paper. But within this division, personnel have been kept on and the work load spread out, in preference to large-scale layoffs. Manufacturers of the rougher grade papers and the converters are holding fast to the line of a year ago, almost without exception.

In no case do company officials believe that business conditions are worsening. In fact, several have noted a pickup since the first of the year, and they point out that their present circumstances are therefore not the worst they have experienced in the past year.

In a few instances, notably in the plants where activity has slipped most, there is no toying with predictions. But even in these cases, officials are only declining to say when they believe the upturn will come. They have no idea that conditions will grow worse.

The majority of the firms affected by the current slackening expect an improvement. Most see it coming in the fall, some the first of next year, and a few say they are already starting on the comeback trail.

The outlook of the various concerns is naturally tied in with their views on the underlying causes of the present slowdown.

A general view is that dealers have built up large inventories and that their orders will come through slowly until those inventories are nearly used up.

It was pointed out that July and August are generally a slack season in the fine writing paper industry, and the feeling is that fall will bring improvement in current conditions.

Westvaco Mechanicville Modernization

MECHANICVILLE, N. Y. — Operations at the local plant of the West Virginia Pulp & Paper Co. will be interrupted during August while new equipment is being installed. The entire mill will be closed on August 14 and 15, and two paper machines will be down for about two weeks each.

The two-day shutdown will enable the Thompson Construction Co. to make new condenser water connections for the turbines including the new 7,500-kilowatt turbine generator, which will be placed in operation later in the year. It is expected operations can be resumed at 7 a.m. August 16.

The new turbine is expected to ease the present strain on power facilities at Mechanicville. In addition to giving the plant an adequate margin of safety in the event of breakdowns, the turbine will provide enough reserve capacity for possible expansion in the future.

The plant now operates three steam turbine generators and 12 waterwheel generators. The present electrical load of more than 11,000 kilowatts normally is divided equally between these two power sources.

The new turbine is capable of producing enough electrical power for a town of about 18,000 people. It was necessary to build an extension to the present powerhouse in order to house the equipment. Plant officials expect to have the turbine in operation by the end of the year.

Two paper machines will lose running time for the installation of new size presses, designed to improve the quality of the paper made on these two units. Machine 4 was scheduled to go down on August 1 and Machine 3 will be down beginning August 22.

The addition of the new size presses on the two machines will give Mechanicville a complete line of machines equipped with these units.

Work on the two machines has been scheduled so that a press can be installed on No. 4 and tested in operation for about a week before No. 3 Machine goes down. Plant officials believe it will require from 10 to 12 days to install each unit and about another week to perfect the operation.

The other four paper machines will be operated on normal schedules during this period.

The two-day break scheduled for the turbine project will enable employes to attend the clamsteam on August 15, staged annually by Local 12915, UMWA, District 50, paper, pulp and sulphite division, which represents hourly paid employes at the mill.

Deeds Islands to State

WEST SPRINGFIELD, Mass. — The Strathmore Paper Co. has given two islands in the Agawam River, opposite the company's West Springfield mills, to the Commonwealth of Massachusetts, to be used as a part of the State Park System.

It is understood that the State's Department of Conservation plans ultimately to make the two islands a part of Robinson State Park. They will be known as the Strathmore Islands.

The islands, one of which is approximately 13 acres in area and the other about a half-acre, were secured by Strathmore from the American Writing Paper Co. in 1927.

Utilizing Mill Wastes

HARRISBURG, Pa.—A $1,500,000 anti-pollution program at the Johnsonburg Paper Mills is expected by the state sanitary water board to bring "great improvement" to the Clarion River.

The board said that the construction, undertaken by the New York & Pennsylvania Co., will not only affect the Cook Forest recreational area but also "have beneficial results" for Pittsburgh.

The Johnsonburg mills use about 20 million gallons of water daily in the manufacture of paper. The processes produce four major types of wastes—black ash from the soda mill, wastes from the de-inking of used paper, black sulphite liquor from the sulphite process of reducing pulp and general wastes from paper manufacture.

The black ash, a carbon conglomerate produced in recovering caustic soda, is carried to a basin for indefinite storage, while the sulphite liquor is being recovered for sale as a road binder. In addition, a series of lagoons has been set up for storing any surplus.

Loosened ink from the de-inking process is being pumped to a 60-acre lagoon on a mountain top for sedimentation and aeration.

The wastes from actual paper manufacture, principally water white liquor composed of water and paper fibres, will be treated in two ways.

More than 3,000,000 gallons of water wastes will be treated in a 60-foot diameter cylindrical tank with mechanical sludge removal equipment to recover the water for re-use in the plant. The remainder will be pumped into settling tanks.

One of the settling tanks, 40 by 170 feet, is under construction and a second, built for experimental purposes, is in use. A third tank will be built later. These three tanks will treat about 13,000,000 gallons of water daily.

At present, two-thirds of the wastes from the paper making machines are still reaching the Clarion River, consisting mainly of a white muck composed of waste paper fibres.

A board engineer estimated that once the three tanks are completed and in operation, it will take some time for the river to clear up.

Longview Employes Recreational Assn.

LONGVIEW, Wash. — The Longview Fibre Co. has formed an employes' recreational association with membership, open to all union, office and supervisory personnel. Members are assessed $1 per year, with management matching the total of dues collected. Governing group is an eight-member board, selected proportionately to each group represented in the association. Present chairman is W. J. Shelton, representing management. Activities include a softball league, a summer picnic, a golf tournament, and basketball and bowling scheduled for the fall. Preparations also are under way for a children's Christmas party.

Concentrating Steam Production

DALTON, Mass.—A long-term program of centralizing steam and power production for four Crane & Co., paper mills is under way, reports Arthur E. Crane, in charge of engineering at the local mills. Production of power and steam for the Crane & Co., operations is being concentrated at the Pioneer Mill, where four obsolete and worn-out boilers were replaced with a single new boiler two years ago. A 1,650-foot steam pipe has been completed to the Old Berkshire Mill to carry all the steam needed there. The line will not go into operation, however, until a new high-pressure boiler is installed. The new boiler should be complete by the end of the year, Mr. Crane estimates.

The next task is to run a 2,850-foot steam line to the Bay State Mill. This work will begin immediately. This line eventually will be extended to the Government Mill.

In addition to producing steam for paper-making operations more economically, the centralization is expected to result in power savings, as well, said Mr. Crane. The modern high-pressure boilers will feed steam at 450 pounds pressure into a new turbine, which will be installed after the end of the year. This turbine will run generators to supply electric power to the mills. The steam fed into the turbine will be used over again by sending it out to the mills through the pipe line with its pressure reduced to 100 pounds.

Water Pollution Interrupts Mills

SOUTHBRIDGE, Mass.—Following the complaint of several paper manufacturers concerning pollution on the Quinebaug River, Massachusetts Health Commissioner Vlado A. Getting on August 1 issued a directive to the Board of Selectmen and manufacturing plants, ordering an immediate end to the "gross pollution."

The paper manufacturers complained that unless industrial pollution were halted, they would have to close their mills because of the damage being done to paper products by the polluted water.

The problem has been intensified by the drought. Hot weather has raised the temperature of the water, reducing the amount of dissolved oxygen which is necessary for the stream's self-purification, Dr. Getting's sanitary engineers reported.

Dr. Getting recommended installation of improved filtering methods at the town sewage treatment works. Ultimately, he said, the town will have to build a new treatment plant, because the present methods were found to be "obviously incorrect."

Recruiting Desirable Personnel

NEW YORK—"Jobs for You" is the title of an illustrated brochure prepared especially for the Robert Gair Co., Inc., plant at Piermont, N. Y., to acquaint desirable youngsters with employment opportunities in the Gair organization.

Wilbur F. Howell, director of public relations, commenting upon the brochure says: "This booklet was prepared especially for our plant at Piermont, N. Y., which employs about 1,000 persons and which is the dominant industry in the town, drawing approximately 95 percent of its employes from an area within ten miles of the plant.

"Under these conditions, it is obvious that the main sources of our personnel are the pupils and graduates of the various schools in the county. Our main competition is due to the fact that Piermont is so near New York City, that the 'big city' is likely to obscure local opportunities.

"We tried to emphasize in the book the relationship between the 'young folks' studies in the high schools and in the vocational schools and the vocations which they might pursue in our plant or industry. Consequently, we intentionally localized the pamphlet by the insertion of the names and addresses of all employes appearing in the photographs."

FOUR MANDO MEN WIN PROMOTIONS

Left to right: M. S. Wunderlich, Robyn A. Campbell, George H. McGregor, and Gilbert Stevens . . . The Minnesota & Ontario Paper Co., Minneapolis, has named M. S. Wunderlich, director of research, to Mando's operating committee, an advisory board to the president regarding operating policies and problems; Robyn Campbell, assistant director of research in charge of pulp and paper, and George H. McGregor, supervisor of pulp, paper and by-products research at the International Falls Laboratory. . . Gilbert Stevens has been named sales and service representative of the paper sales division.

Governors Put on Fork Lifts

KAUKANA, Wis.—C. H. Kemp, safety director of the Thilmany Pulp & Paper Co., reports that his firm has equipped its power-operated fork-lift trucks and other tow motors with governers built into the carburetors. Governors can be controlled as per demand. They are set at 2,200 rpm on all jobs, except one where a 12 percent grade is encountered, and there it is set at 2,400 rpm. After the governors are set they are sealed. "To foolproof this system, the throttle rods are also shortened to equal the 2,200 rpm. The 2,200 rpm gives an approximated top speed of five to six miles per hour, while the 2,400 rpm gives an approximated top speed of seven to eight miles per hour," Mr. Kemp states.

The governors do not affect the hydraulic lift on the truck in its rate of travel up, but do control unnecessary racing of the motor when the hoist is raised. The hoist travels at its top rate up at approximately 2,000 rpm.

Awards for Plant Savings

OCEAN FALLS, B. C.—Walter Collings, Pacific Mills, Ltd., paper machine millwright, has won a cash award of $681 for his suggestion to the Labour-Management Committee to use the flat box grinder to grind creping blades which eliminated the need for a machine that would have cost approximately $3,400. Awards are based on 20 percent of savings involved. The award, which was presented by P. E. Cooper, president of Pacific Mills, Ltd., was made at the monthly Foremen's Club dinner, on which occasion 15 other employes received awards totalling $448. Among this group William Duncan, foundry foreman, collected $150 for his suggestion to use lead tees instead of bronze tees in the acid plant pond cooler.

In addition to the regular Foremen's group, the dinner was also attended by Harold Zellerbach, president of the Zellerbach Paper Co. and a member of the executive board, Crown Zellerbach Corp.; R. A. McDonald, executive vice-president and F. N. Youngman, vice-president of the Crown Zellerbach Corp.

Strathmore and Union Sign

WEST SPRINGFIELD, Mass.—A new contract was signed by representatives of the Strathmore Paper Co. and of its union, Tekoa Local #197, IBPM (AFL) for the company's West Springfield and Woronoco mills on July 27.

The contract, which went into effect at the expiration of the old one on August 1 and extends until August 1, 1950, is substantially the same as that of the past year, with the same schedule of wages, and a few minor changes and clarifications.

The company was represented in the negotiations by: George E. Williamson, president; Cassius M. Bryan, vice-president in charge of production; F. Nelson Bridgham, vice-president and treasurer; Laurence W. Shattuck, assistant to vice-president in charge of production; and Henry D. Johnston, manager of industrial relations.

Stevens Shuts Down Briefly

SOUTH HADLEY, Mass. — Chester Stevens, president of Stevens Paper Mills, Inc., which laid off 40 employes the last week in July, told the firm's workers: "There will be temporary periods when we will have to make adjustments to meet circumstances which are entirely beyond our control. The adjustments being made at this time are of this nature and reflect the simple fact that the industry we serve does not require the output of our six paper machines at present.

"After our August shutdown, we plan to resume production on the four machines located at Westfield which, from present indications, will provide us with sufficient production to cover our estimated sales volume.

"Based upon what we hear and read, this curtailment may well prove to be of a temporary nature, but, as this depends upon conditions both at home and abroad, there is no accurate means of foretelling the course of the immediate future. There is, however, every reason for optimism as regards the future in a broader sense."

Abatement Orders Planned

PORTLAND, Ore.—The Oregon state sanitary authority has ordered five pulp and paper mills in the Willamette valley to either halt river pollution by the end of 1951, or shut down their plants.

Affected by the order would be the Crown Zellerbach at West Linn and Lebanon; Publishers Pulp & Paper Co., at Oregon City; Spaulding Pulp & Paper Co. at Newberg, and the Oregon Pulp & Paper mill at Salem.

The pollution deadline, Dec. 31, 1951, coincides with expected competion date of Portland's new $15,000,000 sewage disposal system, which was given conditional approval by the authority at a July *22* meeting.

The authority said its decision would be referred to attorney general George Neuner before written abatement orders were formally sent to the mills.

October Packaging Expo. Exhibitors

DETROIT—Paper mills and converters and related associations which will exhibit at the Industrial Packaging and Materials Handling Exposition here, Oct 4-6, include: American Boxboard Co.; Container division, Continental Can Co.; Fox Paper Co.; Fibre Drum Mfr's Ass'n.; Gaylord Container Corp.; Gummed Industries Ass'n.; Hinde & Dauch Paper Co.; Inland Container Corp.; Kennedy Car Liner Co.; Kimberly-Clark Corp.; Mid-States Container Corp.; Sefton Fibre Can Co.; and Sherman Paper Products Co.

Native Coal for Canadian Mills?

OTTAWA—It is believed here that aid may be forthcoming for Western Canadian coal operators if they can convince the Canadian Government that they can supply suitable coal for such Ontario industries as the pulp and paper industry as well as others in competition with United States coal presently used in that part of Canada, especially since this would save scarce American dollars.

If the Government should decide in favor of aiding the coal operators, there is no certainty as yet what this assistance would be, though it is believed that the operators might be asked to show how such aid would help the pulp and paper industry and others under such arrangements.

Grand Jury Indicts

PHILADELPHIA—On July *27* a grand jury indicted Charles A. O'Neill, an executive of the Container Corp. of America, on charges of perjury.

B. Royce Russell, deputy attorney general, said the indictment against Mr. O'Neill was based on testimony of the late Ernest V. Wrigley, superintendent of distribution in the Bureau of Water. Mr. Wrigley, after making the statement, took his life in Fairmount Park.

Mr. O'Neill denied Mr. Wrigley's statement when the grand jury questioned him but later he retracted his denial. The perjury indictment is on that basis.

Mr. Russell said the state still was investigating the circumstances under which Container Corp's. water bill was reduced from $119,000 to $40,000.

St. Lawrence Motion Granted

MONTREAL—The St. Lawrence Corp., Ltd., on August 3 was granted a court motion in which it seeks a guarantee of litigation costs in its dispute with Joseph Mayr, who represents a group of stockholders. The court gave Mr. Mayr 15 days in which to furnish his guarantees. At that time, it was indicated, the case will be postponed to some time in September. Mr. Mayr seeks to have the corporation annul its annual meeting last April and call another. He charged that the firm's directors concealed information from stockholders.

Sweezey Plans Undetermined

MONTREAL — Although reports indicate R. O. Sweezey and an Eastern Canadian group have received the "green light" to go ahead with plans to erect a ten to 12 million dollar pulp and paper mill in the Edmonton area of Alberta as well as to use 1,500 square miles of timber lands in the west, it is understood that no date has been set for commencing construction. However, it is said that Mr. Sweezey and his associate have been allowed two years to decide.

Subsidiary Incorporated

FILER CITY, Mich.—The American Pulp Paper Co., Inc. has been chartered under Michigan laws to manufacture pulp and paper products. The company, which is capitalized at $50,000, is now operating a local mill and will continue as a subsidiary of American Box Board Co., Grand Rapids.

Finance Bike Safety Booklet

HOLYOKE, Mass.—As a public service, in the field of highway safety, eight Holyoke paper manufacturers have financed the printing, for the police department, of a booklet designed to educate youngsters in the proper things to do while riding bicycles on the public highways. They are: Valley Paper Co., Marvellum Co., White & Wyckoff Mfg. Co., American Pad & Paper Co., Chemical Paper Mfg. Co., Parsons Paper Co., Perfect Safety Paper Co., and Hampden Glazed Paper Co.

Holman Makes $5,000 Suggestion

ROCHESTER, N. Y.—Bernard H. Holman, employed in the Eastman Kodak Co. paper mill, has collected $5,000 for a suggestion concerning a change in the solution used in an electroplating silver recovery process which made it possible to increase output. The winning suggestion was his 43rd. His previous high was an award of $200. Employes collected $96,000 for suggestions in the first half of 1949 under the Kodak Suggestion System.

Ryan Parsons Arbitrator

HOLYOKE, Mass.—Arthur Ryan, business manager of the Holyoke *Transcript-Telegram*, has been chosen as arbitrator to settle a dispute between the Parsons Paper Co., and Eagle Lodge of Papermakers, No. 1, concerning the pay of 12 machine tenders and back tenders. The dispute involves their status on the new machine dryer which replaces the loft drying system, and the union claims the jobs are entitled to three cents an hour more.

Now It's the Noise!

WILLIMANSETT, Mass. — An anti-noise campaign by local residents against the Chemical Paper Mfg. Co. was launched on July *26*, as Capt. Wilfred Couture of the Chicopee Police Department filed notice of the campaign with Holyoke police officials.

It is charged that the Chemical plant opening its valves late at night or in the early hours of the morning releases steam which produces sharp and continual noises in the area.

War Plant Sold at Cost

WASHINGTON — The Government built one mill, that of the Santa Rosa Pulp and Paper Co., at Pensacola, Fla., in the South for the war, and that plant was promptly sold, it is recorded in a study of disposal of Southern war plants released by the National Planning Ass'n.

Built at a cost of $1,108,000, the pulp and cylinder board mill was sold for the same amount, according to the report.

Open for Inspection

PORT ALBERNI, B. C.—The Blodel, Stewart & Welch Ltd., (pulpwood division) plant here was recently thrown open for a day for public inspection by local residents. Guides took visitors on a complete tour of all operations.

the trend is to TRENT

LARGE DIAMETER STAINLESS STEEL TUBING

Here's why:

- Largest variety of sizes — 4" to 30" inclusive
- Finished tubing . . . machine-formed, machine-welded machine-sized for uniformity
- Made in a *tube* mill by *tube* experts
- Tested cold rolled sheets . . . completely fused into finished tubing *without* added rod metal
- No zone of weakness for corrosion to attack
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- Available for fabrication with any fittings
- All finishes available

All these features add up to better tubing that's easier to apply and maintain, and economical as well. That's why more and more paper mills are looking to Trent for heater, condenser, evaporator, digester and stock line tubing. The complete line of Trent tubing from 1/8" to 30" inclusive is produced by a *tube-making organization* to meet the strictest requirements of the Industry.

When you do business with Trent, you get top quality tubing PLUS engineering consultant service that helps you put stainless tubing to work in your application . . . *Better!* Write for Trent Data Bulletin and tell us what application you have in mind.

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TRENT STAINLESS STEEL TUBING

Jackson Heads CFA

VANCOUVER, B.C.—Thomas B. Jackson, vice-president of Pacific Mills, Ltd., has been elected president of the Canadian Forestry Ass'n of B. C., succeeding R. S. Laird, sales manager of Bloedel, Stewart & Welch, Ltd. Elected vice-president was W. Clarke Gibson, president of Gibson Bros., Logging Co. Secretary-manager of the association is G. X. Miller and W. F. Myring is chief junior forest warden.

Wage-Damage Suit Filed

GENEVA, Wis.—Damages of $324,000 were sought by 144 members of the CIO-United Paper Workers of America in a suit filed here on July 29. Defendants are the Aurora Paper Board Co., and Consolidated Paper Co. The union charges that its members lost their jobs when Aurora bought out the latter firm last May. They asked wage losses and punitive damages.

50th Anniversary at Tyrone

TYRONE, Pa. — July 27 marked the 50th anniversary of the acquisition of the Morrison & Cass Paper Co. of this city by the West Virginia Pulp & Paper Co., New York City. More than a million dollars is being expended for repairs and improvements to the mill for repairs and improvements this summer.

Call "Operator 25"

ERIE, Pa. — The Hammermill Paper Co. is launching a campaign in 12 magazines of national circulation featuring the Hammermill Guild of Printers. In 20,000 communities served by direct Western Union offices, telephone inquiries to "Operator 25" will be given the name of a Guild printer, where one is listed.

Gilman Exhibits at Littleton

LITTLETON, N. H.—The Gilman Paper Co., in nearby Gilman, Vt., was among exhibitors at the Littleton Industrial Exposition, August 4-5, staged under auspices of the Littleton Chamber of Commerce.

Madden, Museum Trustee

BOSTON—James L. Madden, president of the Hollingsworth & Whitney Co., has been elected to the board of trustees of the Boston Museum of Science.

Baker, Safety Council Director

BUFFALO—Melvin H. Baker, president of the National Gypsum Co., has been elected a director of the Safety Council of Western New York.

Cowie Estate, Recreation Spot

FULTON, N.Y.—Oswego Falls Corp., headed by Frank Ash, has purchased the Stony Island summer estate of the late Alexander H. Cowie, and is using it as a summer recreation center.

Eastman's Markus Retires

ROCHESTER, N. Y. — C. W. Markus, purchasing agent of the Eastman Kodak Co., has retired after 41 years with that firm.

$9 Million Red Deer Mill

RED DEER, Alb.—Construction of a $9,000,000 pulp mill is expected to be started this fall or at the beginning of next spring, according to F. A. Dowler, vice-president of Alberta Pulp Mills, Ltd.

Florio, Marvellum V-P, G-M

HOLYOKE, Mass.—Stephen Florio, has been named vice-president and general manager of the Marvellum Co., a newly-created position, and also has been elected a director of Marvellum.

Oswego Falls Erecting Supermarket

FULTON, N. Y. — The Oswego Falls Corp. is erecting a 500 to 90 foot supermarket building in South First street between Division and Pratt streets at an estimated cost of $212,000.

Granted Tax Relief

BASTROP, La.—Tax exemption for $88,600 industrial expansion has been granted International Paper Co., by the state board of commerce and industry.

FORESTRY

Fire Towers, Radios OK'd

TOMAHAWK, Wis.—Bids have been awarded for construction of four fire towers in the 238,249-acre Marathon county addition to the forest protection area. The Wisconsin Conservation Commission authorized purchase of the equipment at a recent meeting. Erection should begin early in October.

Purchase of six 50-watt radio transmitters, also approved by the commission for this area, have not yet been made because funds have not been assigned.

Acquisition of these radios in addition to the four acquired recently will make it unnecessary to construct telephone service which would otherwise be needed.

CPPA Donates Trees

VANCOUVER, B. C.—The Canadian Pulp & Paper Ass'n., western branch, has donated the trees for a 35-acre arboretum on Little Mountain Park. An agreemnt has been signed by the Association with the city of Vancouver whereby the Association will pay $40,000 in the next eight years to establish the Arboretum.

Member companies in the western branch are: Bloedel, Stewart & Welch, Ltd., B. C. Pulp & Paper, Ltd., Columbia Cellulose, Ltd., Pacific Mills, Ltd., Powell River Co., Ltd., Canadian Forest Products Co., Ltd., Sorg Pulp Co., Inc., Sidney Roofing & Paper Co., Ltd., and the Nanaimo Sulphate Pulp Co., Ltd.

South, Pulpwood Producer

NEW ORLEANS—A 1948 pulpwood harvest of 11,379,000 cords, and the opening of five new pulp mills, is reported by the Southern forest experiment station, here.

Albert L. Tofte and William S. Stover, authors of a newly released pulpwood report for the Gulf states area, said that the South now has half of United States wood pulping capacity and supplies nearly half of all the pulpwood taken from United States forests.

Pulpwood output increased in all 12 Southern states, but the biggest rise was in Georgia, where three new mills began operation. Georgia now ranks first among Southern states—production jumped from 1,215,200 cords in 1947 to 1,770,600 cords in 1948. Mississippi, which was first in 1947, ran second in 1948, with 1,433,900 cords.

Other million-cord states are Virginia, 1,306,500 cords; Florida, 1,221,200 cords; and South Carolina, 1,108,500 cords. Output of the other states was: Alabama 981,900 cords; Louisiana, 953,800 cords; North Carolina, 926,200 cords; Texas, 823,600 cords; Arkansas, 616,700 cords; Tennessee, 181,700 cords; and Oklahoma, 34,300 cords.

The counties with the highest production were Baldwin county, Alabama, 157,400 cords; Marion county, Florida, 105,400 cords; and Buckingham county, Virginia, 103,600 cords.

About 90 percent of the pulpwood cut was softwood, mostly pine and the rest hardwood. In Virginia, North Carolina, Georgia, and Tennessee, a total of 324,600 cords were taken from chestnut trees killed some years ago by the chestnut blight.

At the close of 1948, the report said, the South's mills had the capacity to turn out over 18,000 tons of pulp daily, or as much as all other regions of the country combined.

"Fifty-five pulp mills are now operating in the South," Messrs. Stover and Tofte reported. "Five of these are new mills that opened in 1948—one at Natchez, Miss., two at Macon, Ga.; one at Savannah, Ga.; and one at Pensacola, Fla.

"Another mill, for making newsprint and other pulp, is under construction at Childersburg, Ala., and plans have been announced for a mill at Natchez, Miss., to use hardwood timber for manufacturing pulp for rayon. In addition, expansion or modernization plans are under way or have been announced for 10 more existing mills."

Upson to Berkeley

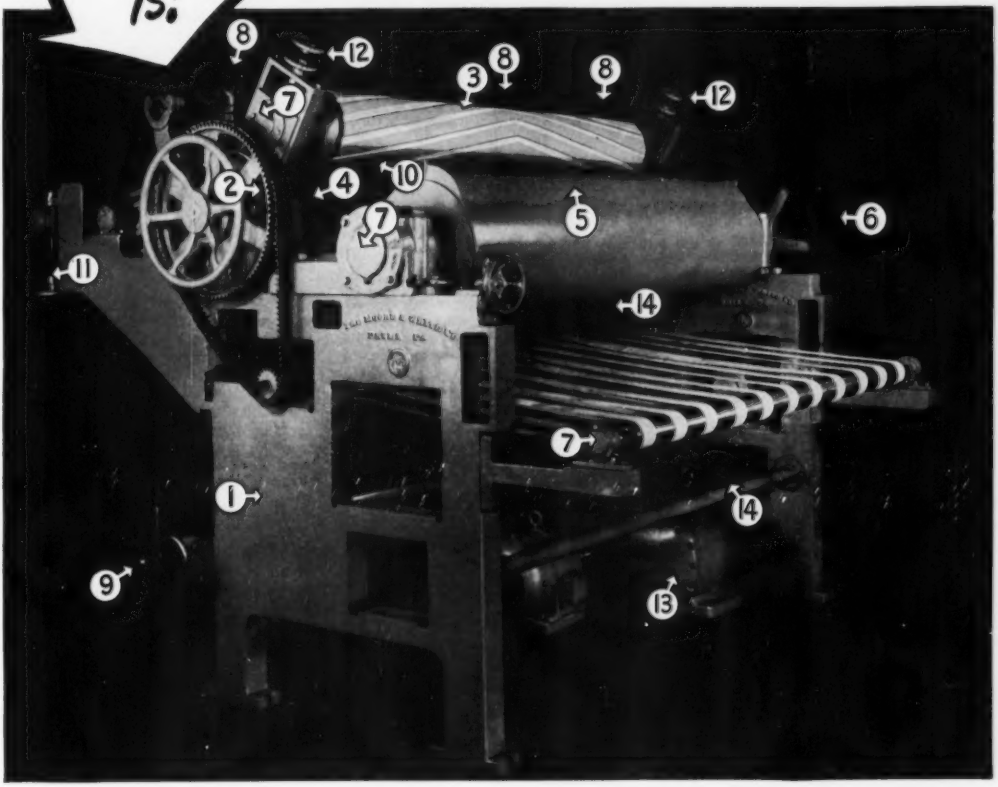
WASHINGTON — Arthur T. Upson, since 1943 director of the Tropical Region of the U. S. Forest Service and general superintendent of the Insular Service Forests of Puerto Rico, will be assigned to special forest utilization work at the California Forest Experiment Station at Berkeley. Mr. Upson will report for duty early in September.

Minnesota Pulpwood Output

Minnesota produced more pulpwood —988,217 cords—and imported less—111,007 cords—during 1948 than either Michigan or Wisconsin, the Lake States Forest Experiment Station reports.

Here it is!

NEW Moore & White Cutter



Adaptable to duplex or triplex installations

Carefully check these features—

1. Interchangeable box-section frames.

2. Heavy-duty centrifugal-cast drum, heads pressed in, outside diameter of drum 15", balanced for high-speed operation.

3. Squeeze-roll made of heavy-duty pipe 9" diameter, rubber-covered, pressed-in heads.

4. Bed for stationary knife, extra heavy casting. Bed-knife adjustable.

5. Revolving knife is held solidly to balanced cylindrical casting.

6. All drive gears are cast iron. All teeth cut for close running tolerances to eliminate backlash.

7. All moving parts encased in antifriction bearings. All bearings easily reached for lubricating purposes. Because of this feature, the horsepower required for this type sheet-cutter is considerably less than required by former cutters.

8. Roller bearing top-slitters, double edge bottom-slitters. Slitters are driven 20 percent faster than the sheet travels to insure clean-cut edges.

9. Standard sheet lengths 18" x 72". The sheet lengths are adjustable from minimum to maximum, through adjustment of one hand-wheel. No gears or step-pulleys to change or adjust. Once the sheet length is set, it remains constant. Sheet lengths over 72" obtainable, if desired.

10. Doctor-board is adjustable and cannot sag, due to heavy backing plate.

11. Lead-in paper-roll adjustable up or down 6", allowing a wide range of adjustments to meet condition of rolls being sheeted.

12. Squeeze-roll brackets adjustable.

13. P.I.V. gear drives rotary knife. May be installed inside or outside of frame.

14. All prime-mover gears are silent-chain-type, fully enclosed with chain-tighteners.

These cutters will cut with a high degree of accuracy on both widths and lengths.

They are built to standard widths of 50, 62, 72, 84, 96, 110 and 124 inches. Additional widths are available in special heavy-duty types. Write today for complete information.

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CUSTOM-BUILT MACHINES FOR MAKERS OF PAPER AND PAPERBOARD

Miss. Forestry Council Program

JACKSON, Miss.—A five-point program for development and utilization of forests and woodlands has been adopted by the Forestry Council of Mississippi.

Brooks Toler, forester for the Masonite Corporation at Laurel, is chairman of the group.

The objectives include: (1) Sound forest management under which at least 1000 additional acres each year will be placed under management. (2) Planting of idle and waste land in a program that will ultimately call for the planting of 100,000,000 trees annually. (3) Adequate forest protection including every acre of forest land and development of an organization that will hold down forest fire losses to less than one per cent per year. (4) Intensified education program calling for courses in principles of land use and conservation of natural resources in grade and high schools. (5) Forest research program adequately financed and organized to provide the answers to numerous problems encountered in forest management similar to the service provided for producers of cotton, livestock and other products of the land.

T. S. Goodyear Appointed

OLYMPIA, Wash.—T. S. Goodyear, of Olympia, former state forester, has been named supervisor of sustained yield forest project No. 1. His appointment was announced by a committee set up by the last legislature to survey the sustained yield forest on the Olympia Peninsula.

The Legislative Committee acted on the recommendation of a group of forestry experts consisting of Gordon D. Marckworth, dean of the School of Forestry and the University of Washington; H. J. Andrews, U. S. regional forester at Portland, and Paul Atkinson, president of the Olympia Logging Ass'n.

Can. Forest Management Licenses

VANCOUVER, B. C.—British Columbia has apparently definitely embarked on a program of forest management licenses. Six new licenses, covering 69,000,000 feet annual cut, have just been approved by the provincial government. On the basis of a 75-year maturity, the six licenses involve more than 5,000,000,000 feet of government-owned timber. The plan has been vigorously protested by the B. C. Truck Loggers' Ass'n. and by other groups, but supported by large operators whom opponents of the scheme assert are the only persons who will benefit.

B. C. Co. Seeks F. M. License

VANCOUVER, B. C.—British Columbia Pulp & Paper Co., Ltd., has made application for a forest management license for timber adjacent to the Quatsino Sound area. This timber would be used to supply the firm's Port Alice operation.

Southern Advance Fostering Forestry

HODGE, La.—The Southern Advance Bag & Paper Co. is now offering technical forestry assistance through Paul E. Dolhonde to landowners who desire their pulpwood marked in accordance with good forestry practices.

This service has been added to the company's free seeding program in a further effort to encourage production of trees as a crop and good forest practices on private owned lands.

Employment and Unemployment in Forestry

By HARDY L. SHIRLEY
Assistant Dean,
N. Y. State College of Forestry

In the heart of every forester is the dream of a prosperous community surrounded by well-managed forests. Happy families dwell in well-kept homes. Neat shops offer serviceable merchandise. Schools, churches, physicians, nurses, and perhaps a small hospital serve the workers. Economic stability is provided by two or more independent but complementary wood-using industries.

Such a dream has come true in many places, but there are far more areas in which timber cutting has not been adjusted to growth. Decades are needed to build up a forest for sustained annual production at high levels. One year of unrestricted cutting may destroy it.

Among the major influences on forest employment are ownership patterns of forest land, objectives of ownership, timber-cutting practices, forest conditions and growth rate, intensity of forest practice and utilization, price of forest products, the number of foresters employed and the prestige and authority they exercise, business and building cycles, the efficiency of management, research and applied technology, world economy and trade.

Effect of Unrestricted Cutting on Forest Employment

When colonists first landed on the North American continent they found timber in inconceivable abundance. It was a hindrance to agriculture. The story of how American pioneers swept over the continent, devastating the forest by lumber operations and fires has been told many times. Here we need to consider only the waste involved.

An address delivered before the Economics Section, World Forestry Congress, Helsinki, Finland, July 14, 1949.

[1] Actual employment records on lumber production and other forest products industries are difficult to obtain. For this reason, a great deal of the material presented in this paper is in terms of lumber production, rather than employment. A rough estimate of the number of men employed can be obtained by using the conversion factor—three man-days are required to produce one thousand feet of lumber (2.36 cubic meters). This covers logging, sawing, seasoning, grading, and distribution.

Apologists for lumbermen have claimed that the waste was justified because it provided the lumber needed for homes, barns, stores, factories and railways. The cry was for cheap lumber and cheap lumber was made available. But was it after all as cheap as we think? The costs in economic and human waste are still being paid. Abandoned mills, homes, schools and villages are the more striking costs. Soils depleted by fires and sun-baking, soils occupied by worthless sod, brush, or scrubby trees that effectively exclude useful trees for decades are other costs. Erosion, floods, and loss of useful water have also occurred. Not until we have restored these lands to forests comparable in productivity with those that originally stood on the land can we know the full cost in time, labor, money, and human progress of the cheap lumber we enjoyed in the past. Yet, based on Swedish experience *(13)*, had we paid but five percent more for our cheap lumber good silviculture could have been included.

Let us examine the facts more closely. During the period 1900-1909, lumber production in Maine averaged some 974,000,000 board feet (2,298,688 cubic meters) annually, enough to keep ten thousand workmen fully employed in logging, manufacturing, selling and transporting lumber products.[1] Since 1910, however, production in Maine has declined steadily *(15)*, reaching a low of 290,243,000 board feet (684,988 cubic meters) per annum for the period 1930-1939. Expressed in terms of employment, this means that in a period of about twenty years the opportunities for employment in the lumber industry of Maine have decreased by approximately seventy percent. New York has a similar history. Were the forest lands of both of these states maintained in high productivity they would grow sufficient timber to sustain lumber production and employment at the highest levels shown for these states.

Lumber production for two other states, Minnesota and Mississippi, show one complete cycle. Both rose to a peak production in a period of three to five decades. The low point in production for Minnesota is six percent of the peak. The low point for Mississippi is forty-four percent of the peak year. This contrast has significance for two reasons. First, it indicates the rapid growth rate of Mississippi forests following cutting; and second, a change in attitude on the part of lumber companies of the South that are now adopting good forest practice.

Industries harvesting cross-ties, mine props, naval stores, chemical wood, and pulpwood have repeated the mistakes of the lumber industry. In New York State, for instance, the pulp and paper industry lost sixty-nine mills in the period from 1917 to 1940.

Hundreds of communities in the United States have grown to substantial size and prosperity as lumber boom towns. Many of these have perished completely. The more fortunate went

through a period of violent depression when the timber was exhausted, but gradually renewed their life through dependence on agriculture or manufacturing *(3)*.

Condition of Forest and Ownership Pattern

Opportunities to acquire good forest properties easily convertible to sustained-yield forestry are rapidly diminishing in America. This is particularly true in the eastern and southern states that contain three-fourths of the commercial forest lands. Virtually all of this area has been cut over once, much of it twice. Areas of well-stocked timberland large enough to support a sizable industry can be found only with difficulty. Employment opportunities are thereby restricted.

Typical of a badly treated forest area is the anthracite region in Pennsylvania *(4)*. Next to coal, forests are the most important resource covering 3.2 million acres. But of this vast area only twenty-four percent bears timber of merchantable size and only five percent bears sawtimber. Timber quality is low. Worthless scrub oak brush covers ten percent of the total forest acreage. Forest work and wood processing provided 7105 man-years of employment in 1943. This is less than twenty-five percent of the potential employment were forests to be brought to high productivity.

The more usual pattern in the United States where farming has been relatively prosperous, is to find small scattered woodlands. Pastured by dairy cattle they rapidly deteriorate. Attempts to harvest logs from such a forest area at Cooperstown, N. Y., proved disappointing. Many individual holdings were too small to log. Others were tied up by legal restrictions. Only half of the actual timber volume was found available for industrial use.

The nearby Richfield Springs-Van Hornesville area reveals the ownership pattern shown in Table I.

For the United States as a whole farmers own 139.1 million acres of forest land *(16)*. Individual holdings number 3,200,000. The average size of holding is forty-one acres. Tracts as small as this are unsuited for intensive forest management unless the farmer does his own logging. Another 122.3 million acres in the United States is in non-farm ownership of less than five thousand acres. Individual holdings in this class average 122 acres in size. Most of these, especially those held by non-residents, are too small for intensive management.

Stoddard *(12)* reports: "Full-time forest farms providing 250 days of woods employment for the equivalent of two men — which may be assumed to represent the average family and an economic unit—would require between one and two thousand acres of well-stocked timberland in northwestern Wisconsin and slightly less than a thousand acres in southwestern Arkansas." The cost of acquiring and equipping forest properties of this size varies from $25,000 to $60,000. Such amounts lie beyond the means of the ordinary forest workman.

DR. HARDY L. SHIRLEY

These examples are cited to contrast them with intensively managed forest areas. The Crossett Experimental Forest, Crossett, Arkansas, is providing work for one man for each 150 acres. The Pack Demonstration Forest at Warrensburg, N. Y., provided partial support in 1927 to only three farmers. After twenty years of management this 2200-acre forest, together with sawmill and retail lumber yard, now provides full-time employment for eleven men.

In Denmark one hundred acres are sufficient to support a forest worker. Comparable figures for other lands are: Germany, 150 acres; Finland, Baltic countries and southern Sweden, 200 acres; northern Sweden, 400 acres *(8, 13)*.

Industrial Forest Programs

Fortunately, forest practices in my country are changing, rapidly in some sections, slowly in others. An outstanding example is the Goodman Lumber Company in Wisconsin. For the first twenty years it cut its timberlands with no thought of perpetuating the supply. But in 1927, when Wisconsin permitted substituting a ten percent severance tax for the annual property tax, and improved protection of forests from fire *(1)*, the company began a forest program. To maintain employment it introduced a veneer mill to use the high-grade birch and maple logs, manufactured small dimension stock, brought in a wood chemical plant to consume the tops and low-grade material for pulp. Business volume and employment were thereby sustained though drain on the forest was sharply reduced. According to a recent statement by the president,[2] the company's income during this period has been just as great as it would have been had they pursued a liquidation process. They now have their capital invested in a going business with a growing forest behind it *(7)*. Meanwhile the Village of Goodman and two other villages supported by the company's activities have developed into permanent and prosperous communities.

The company's record for production and employment is good. Fluctuations with the business cycle are less violent than that of the lumber industry as a whole and of industrial production. The low point for employment did not occur at the depth of the 1932 depression nor in the 1938 depression, but in 1945 when local labor simply was inadequate for needs.

The Crossett Lumber Company of Crossett, Arkansas, began operations about the same time as the Goodman Lumber Company. In 1908 it had 875 employes.[3] This number increased gradually to 1,216 in 1928. Ten years later, after they had introduced a wood chemical plant, a paper mill and initiated a forestry program, the number jumped to 2,373 and in 1948 to 2,922. The sawmill alone has a good record of sustained employment. This record by decades from 1908 to 1948 is: 675, 773, 933, 638, 640. In 1938, one of their poorest years for production, they employed only two men less than in 1948, their peak year. The company has spread employment by shortening the work week during periods of low economic activity.

TABLE I

Total Rural Properties and Woodlots Acreages by Acreage Classes for Richfield Springs and Van Hornesville, N. Y. Central School Districts

Acreage classes	Acres per class in acres	Percent of total	No. farms per class	Percent of total
0	0	0	54	8.0
1-10	764	4.0	129	21.0
11-20	2106	11.0	136	23.0
21-50	6775	36.0	207	33.0
51-	9607	49.0	92	15.0
Totals	19,252	100.0	618	100.0

Building and Business Cycles

Lumber production in the United States has fluctuated rather closely with building cycles, and building cycles in turn fluctuate with general industrial production, but far more violently *(17)*. While this is true of short-term trends, the long-term trend of lumber production has been downward since 1908 and of industrial production upward.

[2] Information supplied the author by R. B. Goodman, President, The Goodman Lumber Company.

[3] Data personally supplied the author by R. R. Reynolds, Crossett Experiment Station, Crossett, Arkansas.

Lumber Prices and Employment

Lumber production in the United States has been influenced to some extent by the selling price of lumber. During the period of 1860 to 1944, the price of lumber has increased far more rapidly than that of all building materials, and all building materials, in turn, have increased in price more rapidly than the index for all commodity prices *(6)*. This trend cannot go on indefinitely without influencing lumber consumption. The progressive decline in lumber use since 1908 is believed to be due in part to increasing lumber prices. Trends are not clearly marked because other variables mask the effect. However, James *(6)* reports that for the periods 1920-1921, 1927-1928 and 1930-1932 lumber consumption rose by 4, 3, and 5.5 percent respectively while corresponding prices fell 11, 3, and 11 percent.

Employment of Professional Foresters

Since 1898 colleges of forestry in the United States have graduated 16,577[4] men *(2)*. It is estimated that at least 12,500 of these are now employed in forestry and related fields. In the early years most graduates went into federal service. Now, the U. S. Forest Service, the largest single employer, employs about 2,500 technical men out of a total of 12,500 foresters employed. Two private companies employ more than one hundred foresters each. A few states have as many as fifty foresters employed.

Attempts to predict future employment opportunities in forestry in the United States have been notorious for underestimates. The saturation point for American foresters has been variously estimated at five hundred, five thousand, seven thousand, eight thousand, eleven thousand, fifty thousand, one hundred thousand, and three hundred thousand.

In 1945 the Society of American Foresters *(9, 10)* estimated that about 2,700 positions for foresters would become available during the first five-year period following the war (1944-1949). Though heartening to veterans the study was a gross under-estimate. Almost double that number were employed during this period.

Influence of Professional Foresters on Employment in the Forest Industries

The 12,500 foresters now employed in the United States form a very important influence in stabilizing forest employment. First of all is the influence of the National Forests. These are managed for permanent sustained yield. Under Public Law 273, Act of March 29, 1944, the federal forest administrative agencies are permitted to effect agreements to pool federal timber with private timber to sustain important local communities. The Shelton (Washington) Cooperative Sustained Yield Unit, to which the Simpson Logging Company is a party, was the first. The agreement is to run for one hundred years, and covers 158,000 acres of the company lands and 111,000 acres of National Forest. The annual cut of around 90,000,000 board feet (212,404 cubic meters) expected under the cooperative management plan will provide continuous employment in the future for a working force of 1,400 men, the number now employed at Shelton and McCleary *(11)*.

Some three thousand foresters are now employed in the industries, treble the number in 1941. At least two hundred occupy positions of executive leadership. These men are alert to protect companies' timber supplies. Moreover, they are gradually convincing their industries that forestry departments represent good investments.

Forest Research and Other Technical Advances

Forest research workers likewise are doing much to help industries. The nationwide forest survey determines the amounts of timber we have in the United States, where it is located, its condition, its growth rate, and other information needed for new wood-using plants. Research in silviculture and in forest management leads to better understanding of timber growing as a business. Power machinery is increasing worker output in large and small logging operations. In the naval stores industry bark chipping followed by spraying the streaks with acid reduced labor requirements by almost one-half. Research in plant layout has lowered operating costs. Quick-setting glues and resins, and high-speed machining tools have increased labor output in the wood-fabricating industries. At the New York State College of Forestry we have been quite successful in developing methods of obtaining high-grade pulps from hardwoods by the grinding process. All these research activities tend to enhance the competitive position of wood by increasing its utility, availability, and cheapness.

World Outlook for Forest Employment

Worldwide demand for lumber and other forest products is greater today than ever before. War-torn countries need lumber for reconstruction. Countries with a high degree of illiteracy are anxious to build pulp and paper mills.

Great Britain has proposed to increase her forest area from 1,144,000 to 5,000,000 acres *(14)*.

Interest in forestry is developing in Latin American countries. Chile, Peru, Bolivia, Venezuela, and Argentina, for example, are expanding their forestry activities. Surveys are being made of timber resources. Unused woods are being tested. Publicly sponsored development corporations financed in part by international credit are establishing wood-using industries.

At the Inter-American Conference on Conservation of Renewable Natural Resources held last September in Denver, twenty-two nations adopted, among others, the following resolutions: "To put an end to practices that injure or destroy the renewable natural resources. . . . To repair insofar as possible the damage already done to our renewable natural resources. . . . To maintain and protect to the utmost all the renewable natural resources." *(5)*

Future Outlook

New lands should be developed in accordance with well-founded plans which will provide for the efficient and orderly utilization of all resources. Precedents for such developments have been set by the Danes in Jutland *(8)*. The program included planting trees to fix the sand and to replace the heather. Fields were improved by adding marl to the acid heath soils. Meadows were irrigated, water courses regulated. Cultivation and planting have reduced the heaths of Jutland by nearly half their area since 1860. During the same period, the rural population in the heath counties was nearly doubled.

Equally famous for reclamation is the Landes Region of France. The Shelterbelt programs in the United States and in Russia are additional examples of forest planting programs integrated with agriculture.

Planning ahead of time avoids much human suffering, discouragement, and heartache. Sound planning backed by aid from governments offers the greatest hope of raising living standards throughout the world.

I have spoken of employment, living standards and prosperity as if these were the chief aims to be sought through forestry. But something even more important may be achieved. A cooperative forestry effort by its very nature causes man to think not only of himself, but of his neighbors, his children, and his grandchildren.

Planning and cooperative effort bring out man's charitable impulses. Human dignity is elevated through planned programs to control human destiny. Man's relation to his Creator becomes clearer. A program that lacks such spiritual values eventually falters through concern of each man for his own immediate satisfactions.

Our world needs now as never before the spiritual values and human understanding that grow through mutual planning and sharing for human betterment. To the extent that foresters contribute to such ideals, they will help peoples in all lands toward achieving mutual understanding and respect—the fundamentals of lasting peace.

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[4] This number includes 12,937 Bachelor degrees and 2,640 Master degrees. Some men hold both degrees so that the number of trained foresters is less than 16,577.

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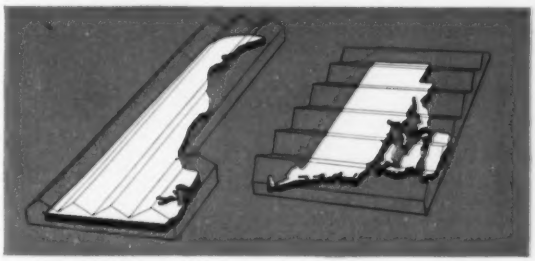

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CONVERTERS

Southon Succeeds Harvey

STURGIS, Mich.—Alfred E. Southon, of Kalamazoo, has been elected president of the Harvey Paper Products Co. succeeding the late Harold C. Harvey, of Sturgis.

The directors, at the reorganization meeting, elected Ralph A. Hayward, of Kalamazoo, board chairman; Paul F. Picker, Sturgis, vice-president and general manager; Thomas W. Peck, of Kalamazoo, secretary-treasurer, and John E. Lean, Sturgis, assistant secretary.

Messrs. Southon, Hayward and Pack also are officials of the Kalamazoo Vegetable Parchment Co.

Wilson's Chesley Speaks at SIRC

RICHMOND, Va.—Henry G. Chesley, president of the Wilson Paper Box Company here was one of the principal speakers at the Southern Industrial Relations Conference held at Blue Ridge, N. C., July 22.

Speaking on "Industry's Responsibility for Achieving Better Understanding with the Public," Mr. Chesley urged the delegates to work through community organizations, churches and schools to inform the public of industry's activities. He asserted also that industry had been "all too busy building pipe lines of information out to the public without giving thought to a return pipe line bringing the public's thoughts to industry." Mr. Chesley told the group to "sell your industry in your community as actively as your sales department attempts to distribute its products across the land."

Surveys have made it apparent that the public has many general and detailed misconceptions about industry, Mr. Chesley maintained. People won't believe manufacturers when they tell them what their firms are contributing to their community, he said. "On the other hand," he concluded, "the public seems to believe what preachers, teachers and your workers tell them."

Bruce Carton Co. Leases Building

MEMPHIS, Tenn.—The Bruce Carton Co. has taken a lease, with an option to purchase, on the building on a two and one-half acre site at 546 Weakley street. The new plant is expected to be in operation by September 1. Officers of the firm are: Jay C. Bruce, president; Parker Bruce, vice-president and general manager; and H. L. Brunner, secretary-treasurer.

Gardner B.&C. Co. Retirement Plan

MIDDLETOWN, Ohio — The Gardner Board & Carton Co. has inaugurated a retirement plan for its employes between the ages of 30 and 65 years, with at least five years of service with the firm.

Box Plant in Production

AUSTELL, Ga.—The million dollar plant of the Austell Box Board Corp. has gone into production, manufacturing paper box board for hat, shirt, shoe and clothing boxes. Ross Puette, of Charlotte, N. C., is president of the organization, which is a subsidiary of the Carolina Paper Board Co., of Charlotte. G. Scott Francis, of Austell, is vice-president, and Bailey Groom, engineer.

Keuffel & Esser Los Angeles Plant

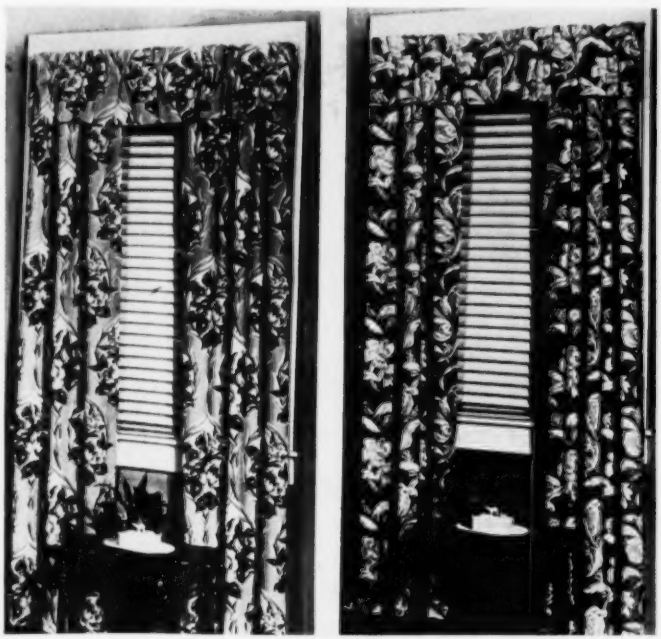
LOS ANGELES—A delicate equipment setting operation is being carried out at the new Keuffel & Esser Co. plant at 1320 Margo street, where paper coating machinery which was fabricated behind closed doors in the firm's Hoboken, N. J., factory, is now being installed.

White River Names Paul Practico

BRONX, N.Y.—John Picola, president of the White River Paper Co., Ltd., has appointed Paul Pratico Co. as its representative in sales to the Army, Navy, Air Force and Government purchasing offices.

Bleyer Firm Moves to Maspeth

MASPETH, L.I. N. Y.—Alfred Bleyer & Co., Inc., is now located in this city at 58-77 Fifty-Seventh street. Telephone, EVergreen 6-6208.



PAPER DRAPERIES ADD FOURTH DIMENSION

Development of fourth dimensional qualities in BenMont draperies through their exclusive "duo-tex" printing and other processes was featured in a private showing of the complete fall line at their N. Y. salesrooms, 292 Madison avenue, July 18 to 22, coincident with the 28th semi-annual curtain and drapery show held at the New Yorker Hotel.

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Fairbanks-Morse Figure 5800 Double-Suction Single-Stage Centrifugal Pumps fit right into that pumping picture. In this application, two pumps direct-connected in series to a Fairbanks-Morse Diesel Engine deliver 12,000,000 gallons per day at 720 rpm. Single stage head ranges up to 305 feet . . . operating and maintenance costs range down to rock bottom. There is a Fairbanks-Morse Centrifugal to fit your pumping picture, large or small. Check your Fairbanks-Morse Pump Distributor or local branch office. Fairbanks, Morse & Co., Chicago 5, Ill.

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Old Colony Box Co. Expands

RADFORD, Va.—A. A. Nolan, president of the Old Colony Box Co., will open bids on August 15 for construction of a box manufacturing plant here. J. L. Williams, Marion, is the architect for the projected structure.

Continental Names Seger

UTICA, N. Y.—Gaylord E. Seger, Livingston, N. J., has been appointed plant manager of the local Continental Can Co. plant.

MERCHANTS . . . .

Mid-West Merchants' Inventories

CINCINNATI.—John L. Richey, secretary-treasurer of the Paper & Twine Ass'n. on August 2 said:

"During the past three weeks, I have visited practically all the paper merchants centers in the Middle West and find that, while there is a variation in the status of the business of the various merchants, on the average their business is down for the first half of this year around 15 percent, compared with last year. This, however, being on a dollar basis, I estimate that the decline in volume is probably only around ten percent on the average, which means that business is still good.

"July is reported to have improved substantially over June, contrary to the usual trend.

"Merchants' inventories are in pretty good shape, but everyone is watching operations closely in order that inventories may not get too large, and that as much cost reduction as possible can be accomplished.

"Net profits are sharply down, many reporting as much as 50 percent reduction in net profit for the first half of 1949 compared with the average of 1948. In the case of fine paper, a large percentage of this loss in net profit is attributed to the fact that merchants were forced by competition in the Middle West to increase their rate of discount allowance to customers while still only getting two percent from most of their mill connections. This factor coupled with other fixed costs such as labor, freight, etc., leaves the merchant in a very difficult situation."

J. Frank Schafer Honored

BALTIMORE, Md.—J. Frank Schafer, secretary of the Hubbs & Corning Co., completing 50 years of service with the firm, was honored with a banquet attended by more than 50 of his associates, at the Sheraton-Belvedere hotel on July 13. R. C. Kettles, president of the company, presented Mr. Schafer with a diamond pin as a symbol of fifty years of loyal service; Joseph Mathieu presented a handsome traveling bag in behalf of the employes; and Charles J. Slicklen congratulated Mr. Schafer on his fine work.

Call Hammermill Agents' Meet

ERIE, Pa.—The Hammermill Paper Co. has sent invitations to the Thirty-Sixth Conference with Hammermill Agents, to be held here August 25-26th.

Business sessions of the Conference will be held at the Kahkwa Club, Erie, on both days. Representatives of the 158 Hammermill agents throughout the U. S., and of the company's export distributors have been invited.

On August 24, prior to the start of the general assemblage, members of the Agents Advisory Committee will meet with mill officials.

Helffrich Appointed by Smythe

PHILADELPHIA—The J. L. N. Smythe Co. has named the Alan B. Helffrich Co., New York City, exclusive selling agent in territories normally outside the Philadelphia trading area, specializing chiefly in the printing, converting, and publishing fields.

Zellerbach Ups Johnson, Cale

BOISE, Idaho—J. H. Johnson, manager of the Boise division of the Zellerbach Paper Co. for the past five years, has been transferred to Phoenix, Ariz., division as manager of the Phoenix division. Everett Cole succeeds Mr. Johnson at Boise.

New Salt Lake City Plant

SALT LAKE CITY, Utah—The Central States Paper & Bag Co., St. Louis, has leased 15,000 square feet in the former Remington Arms plant at 1710 South Redwood drive where it will manufacture tubular cartons and car liners.

West Side Building Sold

NEW YORK—The Reliance Paper & Twine Corp. has sold the six-story industrial building at 521-531 West Forty-Third street, assessed at $925,000, to Charles B. Benenson.

Texas Paper Co., Incorporates

DALLAS—The Texas Paper Co., converter, has been incorporated with capital stock of $100,000 by M. A. Gray, Wm. E. Collins and C. E. Whitley.

Zellerbach's Townsend to Eureka

SAN FRANCISCO — Orville H. Townsend has been appointed branch manager of the Eureka division of the Zellerbach Paper Co.

ASSOCIATIONS . . .

Northeastern Div. Supts. Fall Meeting

Poland Springs House, Poland Springs, Me.

September 22-24

POLAND SPRINGS, Maine — The Fall meeting of the Northeastern division of the American Pulp & Paper Mill Superintendents Ass'n., Inc., will be held at the Poland Springs house, September 22 - 24. The program follows:

September 22 (Thursday)

Registration and informal gathering. 7:00 p.m., dinner, main dining room; 9:00 p.m., organized progressive bridge (contract); 9:30 p.m., dancing in ball room.

September 23 (Friday)

9:30 a.m., general meeting, A. F. Tolland, presiding. "Building Versatility Into a Fourdrinier," Leon Smith, Downingtown Mfg. Co., Downingtown, Pa.; "Jordan Plug Pressure Control and Recording System," Bruno E. Prevost, Emerson Mfg. Co., Lawrence, Mass.; "General Discussion on Paper Maker Problems." Answers to questions in the Head Ache Box. M. M. (Jim) Wishart, moderator.

11:45 a.m., business meeting, election of officers.

12:30 p.m., lunch in grove (weather permitting).

2:00 p.m., informal golf.

2:30 p.m., ladies putting.

3:00 p.m., softball—Supt's vs. Peddlers.

7:00 p.m., dinner, main dining room.

9:00 p.m., cabaret nite at "Paper Makers Club"—vaudeville and dancing.

September 24 (Saturday)

9:30 a.m., golf tournament. — Play any time during the day.

10:00 a.m., barnyard golf.

1:00 p.m., luncheon, main dining room.

2:30 p.m., ladies bridge and tea (contract and auction).

7:30 p.m., banquet, main dining room.

9:30 p.m., Variety Nite at "Paper Makers Club"—dancing, entertainment, awarding of prizes, special prizes.

12:00 m., midnight snack.

Committees

General Chairman: Arthur Burke. *Entertainment:* Arthur Burke (chairman), George Fuller, Roy Tewksbury, Jim Wishart. *Golf:* Ed. McGonagle (chairman), Ed. Warner, Ray Kitty. *Bridge—Thurs. evening:* Mrs. Leon Smith (chairman), Mrs. A. F. Tolland, Mrs. Arthur Burke. *Saturday evening:* Mrs. L. W. McFail (chairman), Mrs. George Fuller, Mrs. Del Gardner, Mrs. Don Hall. *Ladies' Putting:* Mrs. Chas. Ferguson (chairman), Mrs. Chas. Pennings. *Softball:* Jim Wishart (chairman), Cy Stewart, Bill Connors. *Horseshoes:* Art Brosius, Joe Mooney.

First PTA Dinner Meeting

CINCINNATI—The Paper & Twine Assn. will hold its first dinner meeting during the annual Fall Convention of the National Paper Trade Assn. in the ballroom of Hotel Blackstone, Chicago at 7:00 P.M., September 28.

On this occasion, there will be no speeches and no business. There will be a cocktail hour in the lounge outside of the ballroom starting at 6:00 P.M. followed by dinner at 7:00 P.M., during which two instrumental and vocal quartets will entertain. Following dinner, a elaborate floor show will be staged.

The committee, composed of E. J. Durkin, chairman; Ben Babbitt and William Knox, promises "a marvelous evening," John L. Richey, secretary-treasurer, reports.

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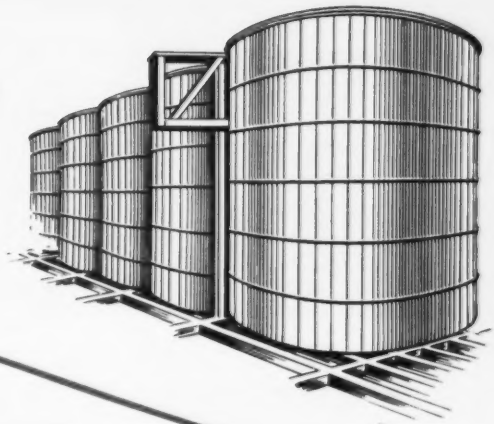

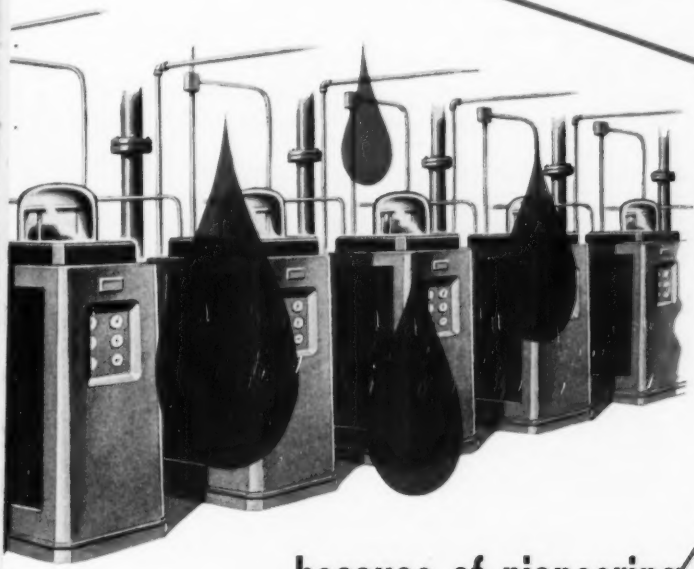

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. . . because of pioneering by Niagara Alkali

In 1900 practically no community was protected effectively against water-borne diseases. Today, every modern city and town is safeguarded by scientifically planned and operated water purification systems and sewage treatment plants.

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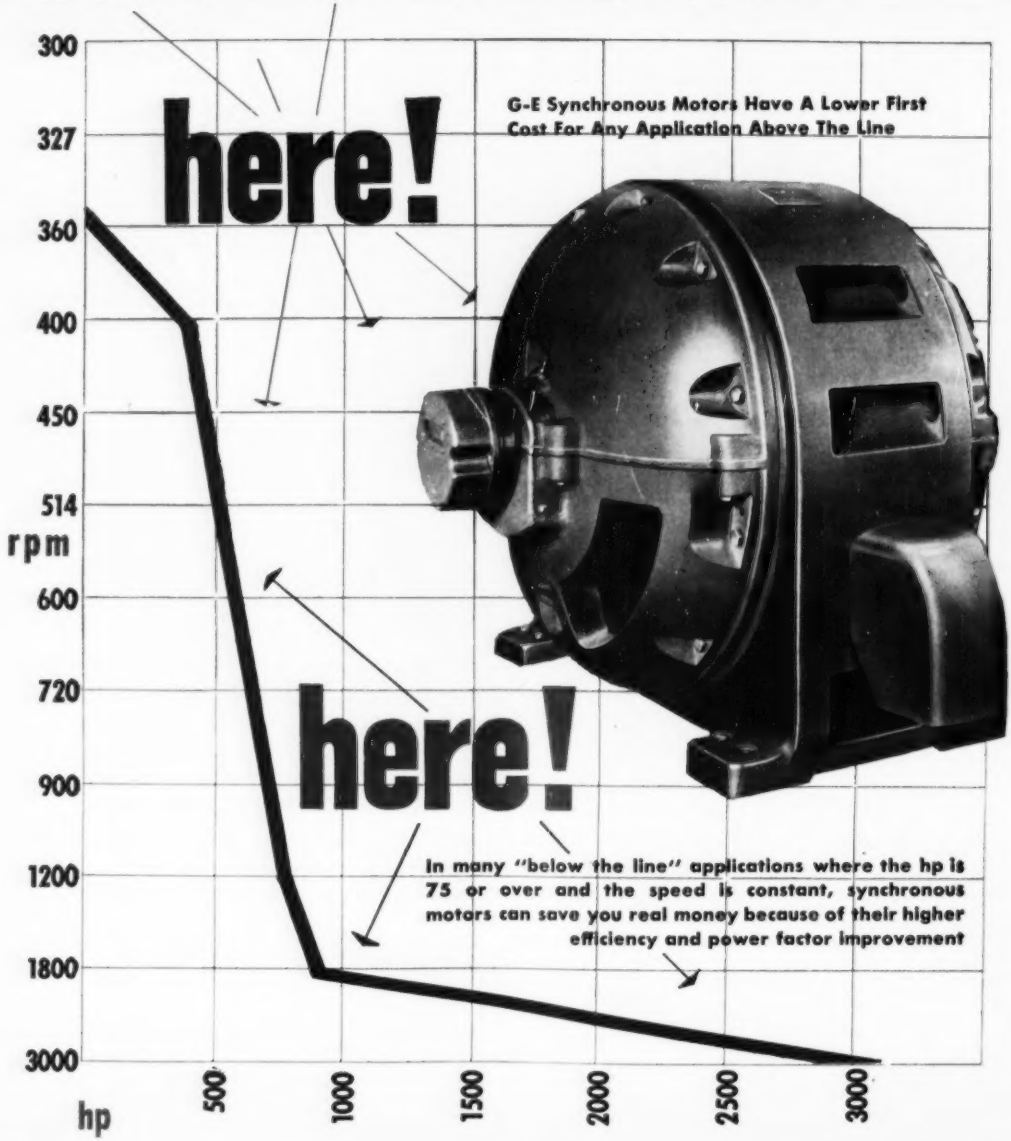
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G-E Synchronous Motors Have A Lower First Cost For Any Application Above The Line
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SYNCHRONOUS MOTORS

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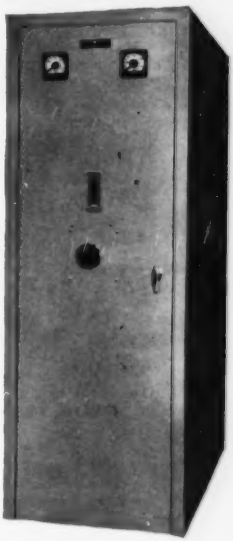

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GENERAL ELECTRIC

← Newly-elected officers, Michigan Div., Superintendents Ass'n. . . Left to right: Wm. F. Hathaway, Kalamazoo Vegetable Parchment Co., chairman; Richard H. Peeters, St. Regis Paper Co., secretary-treasurer; O. W. Callighan, Edgar Bros., Co., first-vice chairman. . . Wm. Shaw, Michigan Carton Co., second vice-chairman, not present for photo.

→ Wm. F. Hathaway, assistant manager of paper manufacturing of the Kalamazoo Vegetable Parchment Co., Kalamazoo, is the newly elected chairman of the Michigan division, American Pulp & Paper Mill Superintendent's Ass'n., succeeding Herbert Johnson of the Allied Paper Mills, Kalamazoo.

Mich. Supts. Elections

KALAMAZOO—William F. Hathaway, of the Kalamazoo Vegetable Parchment Co., Parchment, Kalamazoo, Mich., was elected chairman of the Michigan Division of the American Pulp & Paper Mill Superintendents Ass'n., Inc., for the 1949-50 term at a business meeting of the division at the Kalamazoo Country Club, July 26. The business session highlighted a dinner meeting at the Club and climaxed the divison's Annual Sports and Field Day. Mr. Hathaway succeeds Herbert B. Johnston of Allied Paper Mills.

Other division officers elected are: O. W. Callighan of Edgar Bros., Co. (first vice-chairman); William Shaw of the Michigan Carton Co. (second vice-chairman); and Richard H. Peeters of the St. Regis Paper Co. (secretary-treasurer).

The dinner meeting was attended by 96 members and guests, while the golf tournament of the afternoon found 41 participants on the course.

Winners of the golf tournament were: Low gross, Norman Carver; second low gross, Larry Halleck; low net Albert Sherwood; low total score on six blind holes, Gerald Eherman; low gross foursome Arthur Woolam, Albert Sherwood, Howard Vanderberg and Lee Willoughby; low net foursome, Herbert Johnston, William Saunders, Howard Mayshaw and William McArthur; high gross, George Liedholz; high net, O. W. Callighan.

Other competitive events included croquet, lawn dice and blind bogey.

Sept. Meet, Mich. Supt's.

KALAMAZOO—The first dinner meeting of the 1949-50 season of the Michigan Division of the Superintendent's Ass'n., at Hotel Harris, September 15, is to feature a talk by James S. Thornton of the Downingtown Mfg. Co., on "Fourdrinier Auxiliaries." Lantern slides and charts are to be used in connection with the presentation. A question and answer period will conclude the program.

Supt's. N. Y.-Canadian Div. Meet

PLATTSBURG, N. Y.—The New York-Canadian division of the American Pulp & Paper Mill Superintendents Ass'n., Inc., will meet at the Champlain hotel here, September 8-10.

A strong program has been worked up to provide ideas for the mill man, and invite his participation in the discussions.

An important phase on the educational side is the opportunity provided to visit mills on the way to and from the Convention, and the mill visits scheduled around Plattsburgh as a part of the regular program. For relaxation

Lawn dice had a good following of devotees at the Michigan Division Superintendents meeting.

Sports Committee — left to right: Frank Hamilton, Allied Paper Mills; Frank Kennett, Kalamazoo Country Club pro; William Honey, Stowe-Woodward, Inc. (chairman); Fred C. Goodwill, Kalamazoo div., St. Regis Paper Co.; C. B. Smith of Noble & Wood Machine Co.

there will be golf, trap shooting, tennis, swimming, a boat ride, and dances in the evening. A main event will be the Get-together the night of September 8 at which the salesmen will be hosts. The ladies' program will include golf, swimming, bridge, tennis, boat rides, shopping, visiting, and dancing in the evening.

For details write to E. C. Keyser, Diamond Match Co., Plattsburg, N. Y.

NAWMD Fall Meet, Sept. 9-12

Seven members of the National Ass'n. of Waste Material Dealers, Inc., have been named to the committee for the Association's 1949 Fall Meeting, September 9-12 at the Sagamore hotel, Lake George, N. Y., Miss Shirley Rief and Louis Gordon, co-chairmen of the affair, report. They are: Haskell Stovroff, Buffalo Waste Paper Co., Buffalo; Harry Korman, Midwest Waste Material Co., Detroit; William Abramson, A. Abramson & Sons, Inc., Newark, N. J.; Louis Marcovitz, Loumar Textile By-Products, Inc., New York; Hugo Simon, Barth Smelting Corp., Newark, N. J.; Sidney Danziger, H. Kramer & Co., New York, and Archie Rosenthal, Joseph Rosenthal's Sons, Inc., Philadelphia.

Mr. Stovroff will be in charge of the golf tournament, being assisted by Mrs. Mitchell Jacobs, of New York City.

Mr. Abramson will captain a Metals team and Mr. Korman the Rag and Waste Paper outfit in a scheduled baseball game.

Mr. Marcovitz and Mr. Simon will plan the card games, with Mrs. Paul Jos. White, of New York City, and Mrs. Emanuel Hettleman, of Baltimore, Md., being in charge of the ladies card and mah jong games.

The putting contest for non-golfers will be headed up by Mrs. Rosenthal, who will be assisted by Mrs. Abe Smith, of Newport, R. I.

Mr. Danziger will be in charge of the moonlight boat ride on the "Mohican" on Lake George.

PMMI Chicago Meet Coming

NEW YORK—The Seventeenth Annual Meeting of the Packaging Machinery Mfrs. Institute will be held at the Edgewater Beach Hotel, Chicago, October 31-November 2. This is the first annual meeting which the Institute has held in Chicago in ten years.

22nd Chemical Exposition

NEW YORK—The 22nd Exposition of Chemical Industries will be held in Grand Central Palace, November 28 to December 3.

E. R. Weidlein, director of Mellon Institute, is chairman of the advisory committee of the 1949 exposition, which includes among others: Roger Adams, head of the chemistry department, University of Illinois; F. E. Barrows, President, The Chemists' Club; Francis J. Curtis, president, American Institute of Chemical Engineers; J. V. N. Dorr, president, Dorr Co.; Alfred L. Ferguson, president, -Electrochemical Society; Linus Pauling, president, American Chemical Society; W. T. Read, General Staff, U. S. War Department; N. A. Shepard, chemical director, American Cyanamid Co., and R. Gordon Walker, vice-president, Oliver United Filters, Inc.

TAPPI Fall Meeting

Multnomah Hotel, Portland, Ore.

September 12-15

PORTLAND, Ore. — The Fall meeting of TAPPI is to be held here September 12 - 15 at the Multnomah hotel.

Arrangements have been made for a special train — air-conditioned and modern equipment throughout — over the Union Pacific System, leaving Chicago at 3:00 p.m., September 8, with stops at Sun Valley, Idaho, Saturday morning, and the second on Sunday at Bonneville Dam on the Columbia River just above Portland.

"Bumps" Hemphill, a veteran of the previous trips to TAPPI meetings on the Pacific Coast, will be host on the train and H. A. "Gob" DesMarais will be on hand in Sun Valley to help make the balance of the journey as enjoyable as possible.

Now for the four days of the meeting. The convention opens Monday morning with a trip to the woods for the men. Howard Morgan, manager of the Pulp Division of the Weyerhaeuser Timber Co., will conduct the group over the company's tree farm and logging operations. The day includes luncheon at the camp.

For the ladies, there will be shopping, visiting and in the afternoon a tea honoring the wives of the national officers.

Tuesday will be a day of mill visits in Longview, Camas, and Vancouver, Wash., and in Oregon City and West Linn, Ore. The groups will be provided comfortable buses and there will be guided tours of the sulfite and kraft pulp mills, the paper mills and the specialty mill. The day for mill visits is planned so that it will be virtually a session of technical study to suit your particular interest. For those who prefer, the committee has arranged for golf and bowling tournaments. And the ladies may join in these events or in the Ladies Bridge Luncheon. The evening is open.

Wednesday, the 14th, starts with a breakfast for the men at 8 a.m. handled by the International Brotherhood of Migratory Peddlers.

Wednesday and Thursday from morning until dinner each day will be given to technical papers and discussions. On that day buses will take the ladies to Mt. Hood. Arriving at Government Camp, they will ride up to Timberline Lodge on the skylift. There, in the dining room of the Lodge, the ladies will be served luncheon prior to the return trip. That evening, there will be the first all-Convention get together at an informal dance.

Thursday noon, the ladies will be tendered a luncheon and fashion show in the Multnomah hotel.

For the men, the fourth and last day will be devoted to technical sessions. In the evening, following cocktail hour, the banquet with floor show and dancing and no speeches, will be given for both men and women.

The tentative program of the Technical Sessions, September 14 - 15, is as follows:

September 14

Men's Breakfast—8:00 *a.m.—Grand Ball Room.* Sponsored by International Brotherhood of Migratory Peddlers W. R. 1.

General Session—9:30 *a.m.—Assembly Room.* W. F. Holzer, presiding.

(1) Welcoming remarks.

(2) President's Message—A. E. Bachmann.

(3) Secretary's Message—R. G. Macdonald.

(4) Shibley Award. Meaning of the Shibley Award—Wm. R. Barber. Presentation of Awards—A. E. Bachmann. Shibley Award Paper, "The Separation of Dirt from Unbleached Pulp by Centrifugal Type Classifiers"—Vance Reynolds, Puget Sound Pulp & Timber Co., Bellingham, Wash.

(5) Status of the Pacific Coast Pulp and Paper Industry—Lawson Turcotte, vice-president, Puget Sound Pulp & Timber Co., Bellingham, Wash.

(6) Japanese Pulps and Pulping—H. R. Murdock, Roberts & Co., Associates, Atlanta, Ga. Formerly Chief of Pulp and Paper Branch, Natural Resources Section, G.H.Q., Tokyo, Japan.

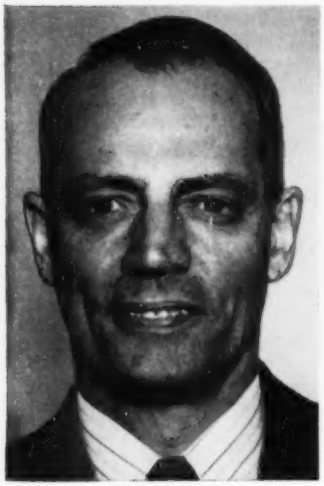
Luncheon—12:15 *p.m.—Rose Bowl.* R. J. LeRoux, presiding. Speaker, Harold S. Foley, president, Powell River Paper Co., chairman, Canadian Paper & Pulp Ass'n.

Technical Sessions—2:00 *p.m.*

Engineering—Junior Ball Room. G. H. Pringle, presiding.

(1) Corrosion and Corrosion Testing in the Pulp and Paper Industry. R. A. Huseby and M. A. Sheil, A. O. Smith Corp., Milwaukee.

(2) Hydraulic Barking, A Summary, L. E.



A. G. NATWICK
Co-Chairman
TAPPI Fall Meeting

R. J. LE ROUX
Co-Chairman
TAPPI Fall Meeting

Hill, pulp division, Weyerhaeuser Timber Co., Everett, Wash.

(3) Paper Mill Design and Construction. J. H. McCarthy, St. Regis Paper Co., Tacoma.

Fundamental Research—Marine Room. J. L. McCarthy, presiding.

(1) Opening Remarks by the chairman of the Fundamental Research Committee. H. F. Lewis, Institute of Paper Chemistry, Appleton, Wis.

(2) Report on Lignin Studies under the Pulp Mills Research Project at the University of Washington. D. M. Ritter, and J. L. McCarthy, University of Washington, Seattle.

(3) A Commercial Method of Isolating Conidendrin from Waste Sulfite Liquor. Homer B. Lackey, W. W. Moyer and W. M. Hearon, central research and technical department, Crown Zellerbach Corp., Camas, Wash.

(4) Surface Area of Fibrous Materials Using an Air Permeability Method. J. C. Brown, Jr., Institute of Paper Chemistry, Appleton.

A further paper to be confirmed.

Sulfite Pulping—Assembly Room. G. H. McGregor, presiding.

(1) Digester Linings for Soluble Base Sulfite Pulps. E. F. Tucker of the Stebbins Engineering & Mfg. Co., Watertown, N. Y.

(2) Progress Report on Magnesia Base Pulping. S. E. Hazelquist, Pulp Division, Weyerhaeuser Timber Co., Longview, Wash.

One further paper to be confirmed.

(3) Certain Factors that Influence Delignification in Acid Sulfite Pulping. G. A. Richter, wood cellulose development department, Eastman Kodak Company, Kodak Park, New York.

Informal Dancing—9 p.m.—Grand Ball Room.

September 15

Technical Sessions—9:30 a.m.

Papermaking—Assembly Room. A. E. Bachmann, presiding.

(1) Beater Additives in Papermaking. D. T. Jackson, Hammermill Paper Co., Erie, Pa.

(2) Effect of Phenolic Resins on Physical Properties of Kraft Paper. P. K. Baird, R. J. Seidl, and D. J. Fahey, U. S. Forest Products Laboratory, Madison, Wis.

(3) Consumers' Ideas on Paper Quality. F. H. Abbott, III, Sunset-McKee Co., San Francisco.

Two further papers to be confirmed.

Alkaline Pulping—Blue Room. H. C. Wall, presiding.

(1) Pulping Properties of Decayed Douglas Fir. J. N. McGovern, U. S. Forest Products Laboratory, Madison, Wis.

(2) Centrifugal Clarification of Kraft White Liquor. A. E. Reed and W. F. Gillespie.

(3) Relation of Kraft Pulp Quality to Wood Properties of Douglas Fir. R. N. Hammond and P. S. Billington, research department, pulp division, Weyerhaeuser Timber Co., Longview, Wash.

A further paper to be confirmed.

Comparative Studies of Douglas Fir, Western Red Cedar, Western Hemlock, Loblolly Pine, and Black Spruce as Pulpwoods—Marine Room. H. F. Lewis, presiding.

(1) Sources of West Coast Pulpwoods. J. M. McEwen, research department, pulp division, Weyerhaeuser Timber Co., Longview, Wash.

(2) Chemical Constituents of the Woods. H. F. Lewis, Institute of Paper Chemistry, Appleton, Wis.

(3) Pulping of the Woods. K. G. Booth and W. F. Holzer, central research and technical department, Crown Zellerbach Corp., Camas, Wash.

(4) Specific Morphological, Chemical, and Physical Properties of the Kraft Pulp Fibers. H. F. Lewis, Institute of Paper Chemistry, Appleton, Wis.

(5) Comments on the Springwood and Summerwood Fibers of Douglas Fir. W. F. Holzer and H. F. Lewis, central research and technical department, Crown Zellerbach Corp., Camas, Wash., and Institute of Paper Chemistry, Appleton, Wis., respectively.

Luncheon—12:15 p.m.—Grand Ball Room. A. E. Bachmann, presiding.

"Management's Job Is Selling." Alexander R. Heron, vice-president, Crown Zellerbach Corp., San Francisco.

General Session—2 p.m.—Assembly Room. K. P. Geohegan, presiding.

(1) Economic and Social Status of the Pulp and Paper Industry. E. W. Tinker, American Pulp & Paper Ass'n.

(2) Position of Cellulose as a Chemical Raw Material. L. S. Sinness, director of research, rayon division, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

(3) Trends of Research in the Cellulose and Pulp Field. Emil Heuser, La Jolla, Calif.

(4) Problems of Education in the Pulp and Paper Field. John G. Strange, Institute of Paper Chemistry, Appleton, Wis.

Cocktail Hour—6 to 7 p.m.—Assembly Room.
Banquet—7 p.m.—Grand Ball Room
Entertainment and Dancing—to 1:00 a.m.

A. I. Ch. E. Montreal Meet

MONTREAL—The American Institute of Chemical Engineers will hold a regional conference here, September 6-9, the first meeting in Canada since 1937.

Plant visits have been arranged at the Belgo-Canadian Pulp & Paper Co. and elsewhere.

A complete program can be obtained from the A.I.Ch.E., 120 East 41st street, New York 17, N. Y.

Two Join National Safety Council

CHICAGO — The Canadian Pulp & Paper Ass'n., Vancouver, B.C., Leander Manley, secretary-treasurer; and the Wortendyke Mfg. Co., Richmond, Va., George T. Lee, industrial engineer, have been admitted to membership in the National Safety Council.

Milner Made SAPI Member

CHICAGO—Norman W. Milner of the local office of the Champion Fibre & Paper Co. has been admitted to membership in the Salesmen's Ass'n. of the Paper Industry, Western Division.

MISCELLANY . . . .

Alexandria, Va., Steals Play

WASHINGTON — Newspapers in this city have received their first shipment of Finnish newsprint since October, 1947, unloaded from a Finnish vessel directly at the nearby port of Alexandria, Va.

Loaded at Kotka, aboard the Tornato, the shipment consisted of 2,000 tons of newsprint, of which the *Washington Times-Herald* took 1,300 and three other papers in Washington shared the remainder.

The shipment attracted interest for several reasons. One, said Mr. C. C. Lattin, traffic manager of the Times-Herald, is that this was the best paper received from Finland in some time. Another was the fact that the rolls were not plugged, but came end-shipped, it is understood at the suggestion of Mr. Lattin. This is a new departure for paper in this section.

Still another factor of local interest was the matter of direct shipment from Finland. The *Times-Herald* alone takes approximately 6,700 tons of this newsprint annually, and if diversion of shipments to other papers from Baltimore, the usual unloading port, is on the same order, a considerable tonnage of such cargo will hereafter by-pass that port.

So far as the above Washington paper is concerned, regular shipments already are being scheduled from Finland. This newpaper, prior to the war, used a considerable tonnage of Finnish newspaper. It is expecting two shipments in August, of about 550 tons each.

The fact that these shipments are arriving at this time, it is believed, points to Finnish home production being current, as the shipments are somewhat ahead of schedule.

One boat from Finland every other

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month is the schedule, but this may work out as one shipment per month, all unloading at Alexandria instead of Baltimore. One paper warehouse at Alexandria has warehouse capacity for 14,000 tons per month, which is considered ample for holding the requirements of papers in this area.

Paper from Sericea Stalks

DALTON, Ga.—The local Chamber of Commerce and S. H. Christopher, land utilization conservationist, are cooperating in a study of the possibilty of locating a paper mill here to manufacture paper from sericea stalks. "I have secured information from successful experiments," said Mr. Christopher, "which prove that sericea stalks can be used in the manufacture of high-grade paper."

It is undertood that the sericea stalks can make fine grade paper as well as rough stock, and experiments indicate that the sericea paper possesses many of the better qualities of rice paper used for cigarettes.

"Sericea is a cover crop," it was explained, "but the disposition of the stalk has been a headache to farmers, who either burn the stalk or use it for ditch filler purposes. Using the substance in the manufacture of paper would greatly increase the farm income already received from sericea."

According to C. H. Brand, district soil conservationist, it is estimated that it would require 60,000 acres of sericea to supply a mill for 12 months. "The mill possibly could secure enough of the stalks from near-by counties to meet its demand," he added.

There are 9,866 acres of sericea in Whitfield county, and 4,340 in Murray, with an additional few thousand acreas in Gordon, Catoosa and Walker.

T. H. McMillan, of the Chamber of Commerce, said one of the southern research bureaus had approved the feasibility of the manufacture of such paper. The plan, however, is still being investigated from an economic standpoint, it was stated.

Canadian Rigid Insulating Board

OTTAWA—Production and domestic sales of rigid insulating board both advanced in June and the first six months of this year over the corresponding periods of 1948, the Canadian Government reports.

The month's output amounted to 21,095,500 sq. ft. compared with 20,839,900 in the preceding month and 17,961,100 in the same month a year ago. During the six months ending June, 126,926,800 sq. ft. were produced as against 104,336,500 in the similar period last year.

Domestic sales in June registered a slight increase over May, amounting to 20,162,000 sq. ft. compared with 20,122,800, but showed a sharp rise over the 14,388,000 sold in June last year. In cumulative period, sales totalled 121,491,600 sq. ft. as against 88,015,500 in the like 1948 period.

Selecting and Training Controllership Personnel

By Keith Powlinson
Vice-President and Controller
Armstrong Cork Co., Lancaster, Pa.

The controller's task is one which demands skills other than technical proficiency in accounting. It demands tact, vision, aggressiveness and the ability to give directional influence to the entire business unit. Controller's men cannot and must not be mere accounting craftsmen, content to deal with what has happened after the fact, to enter digits in ledgers and to balance books. They must be money-*makers*, rather than essentially budgeteers or money-savers.

Those who plan to make a career of controllership should be able to see the

KEITH POWLINSON

business as a whole in perspective. They must be able to form and hold, even under pressure, convictions about what is consistent with the achievement of the primary objectives of the business. They must be able to present their points of view accurately, clearly and with tact, discretion and justifiable self-assurance. The task also requires salesmanship of the highest order.

Many of the men in top industrial positions today are so-called "rugged individualists" whose early business experience as general managers with over-all responsibility made them determined to do everything within their own line organizations. They resist, and even resent, the intrusion of functional staff men who are not under their immediate and complete control. Controllers must carry the offensive to the operating men, and not merely stand by and hope their services will be demanded.

Where are we to get the type of man that are needed? Obviously, they must come from our colleges and universities, but men of the right kind are not coming from them in sufficient numbers today. What can be done about it? How can we attract aggressive, forceful young men of ability — young men who are potentially able to develop the social and administrative skills required?

It is not likely there will be any great change in teaching methods until industrial management itself more generally realizes the importance of having the right type of men in the controller's department and what has to be done to get them. Because industry does not fully recognize the need for such men, the colleges are not teaching accounting in a manner that attracts sufficient numbers of the right men.

Improving Instruction in Colleges

The school has an opportunity to perform a real service if it can break this circle of cause-and-effect. The way to break it is to invite to the campus acknowledged experts from industry to teach accounting. This is by no means a new idea. Precisely the same thing is being done today in teaching medicine and law.

In teaching accounting it is virtually impossible to set up a laboratory which will simulate, even approximately, the actual conditions in industry. Therefore, even though the student develops manipulative skills in handling the techniques of accounting, he has no opportunity to develop the social and administrative skills which he must have to become an effective member of a controller's department. The next best thing is to have skilled accountants from industry teach the subject.

Training in Industry

A college education at best can be only horizontal and general in nature. The student learns something about many things. In industry, on the other hand, his training is vertical and specific. He learns by specific cases, by a succession of specific cases, and he learns by becoming familiar with every detail of each case.

To accomplish training in social skills, the best classroom is the office and the factory, and the best teacher is the supervisor. The best teaching tool is an attitude of mind on the part of management which recognizes that each job consists of two parts: (1) a job to be done quickly, thoroughly and efficiently, and (2) a training post for a developing executive.

How can we implement these general statements with specific action? First, we must place men in supervisory positions as early as possible. Second, we must watch them closely and aid and

Editor's note: The author is one of the contributors to the symposium, *Controllership in Modern Management*, sponsored by the Controllership Foundation, Inc., and published recently in book form by Richard D. Irwin, Inc., Chicago.

abet the development of their social skills.

Those who supervise the trainee should be able to sense the human relations and administrative difficulties which the trainee encounters. He should not be permitted to go on to something with more significant technical involvements until after the controller is satisfied that he can do a good job of personal supervision on rather simple work. The most serious of all personnel problems, as I see it, are those which concern individuals who have been permitted to reach maturity in their own personal development and fairly high salary brackets before they learn to supervise others.

Keeping Track of Progress

Inherent in any program of personnel development is the basic problem of identifying or recognizing the individuals who have outstanding capacity for growth. Perhaps one of the most effective media used for this purpose is that of the personal interview on the anniversary of the beginning of service or of some other significant event in the life of the individual as an employe. Such interviews should be used primarily for the purpose of filling in the development or growth blueprint of the individual. His goals as he defines them, his time schedule as he conceived it for himself, his desire as to the sequence of progression from stage to stage, should be explored fully on the occasions of these regularly recurrent interviews. Collateral interests or situations involved in his work or living relationships as they emerge in these interviews can be and frequently are of equal importance in shaping the course of an individual.

Contacts with Operating Men

The ability to make effective contacts with operating men at various levels in the organization must be acquired in the development of accounting personnel. This is important because the major work of the accountant involves the interpretation of what the figures mean to those who are in a position to do something about them.

An alert trainee, reaching out for opportunities, will take advantage of such situations in order to establish the fact that he is capable of making contacts on an effective basis with individuals outside his immediate sphere of responsibility or even participation.

Formal vs. Informal Training

Since large-scale business accounting is broken up into many areas of specialization, the training program must be formalized to the extent that controllership executive personnel are given experience in every aspect of the controllership function. Men with growth potential must be moved from position to position in order to give them a comparative grasp of the manifold ways in which accounting principles are applied. Thus each functional situation becomes a training position through which those who are in the process of becoming full-fledged accountants must pass.

Although it would be ideal to have personalized training, tailored to suit the individual needs of the man, this system has one practical disadvantage. College graduates instinctively shy away from companies which claim to have personalized training in accounting work. The reason for this is that too many companies in the past have claimed to have this sort of training in order to induce young men to join their organization and then have failed to produce it. Instead of being trained individually, the men have been assigned to routine clerical jobs and more or less forgotten. For this reason it is advisable to have a formal training program.

It is a practical impossibility to outline a precise course of instruction for controllership personnel that would be universally applicable. However, the important point to keep in mind with respect to training is that it be directed primarily toward the development of social and administrative skills rather than toward the development of mere technical proficiency in accounting.

ECA to Help U. S. Mills

WASHINGTON—The Economic Cooperation Administration promised on August 2 to try to help American pulp and paper producers secure some of the business of the British Government now going to Canada.

Paul Hoffman, administrator, told Washington State members of Congress he would present to Great Britain their request that Canada's contract for supplying the U. K., with pulp be modified.

Under the present arrangement Great Britain purchases all of its pulp requirements from Canada and the contract has four months to run.

Representative Jackson (D., Wash.) said the delegation told Mr. Hoffman that American pulp mills are reducing operations because of lack of a market.

CPTB Approves Two

NEW YORK—One firm and one individual have been approved and added to the list of Commercial Laboratories of the Certified Pulp Testers' Bureau. They are the Gulick-Henderson Laboratories, 431 So. Dearborn street, Chicago (formerly represented by Everett J. Schwantes, resigned); and John H. Sutliff, Font Grove Road, Slingerlands, N. Y. (formerly with A. P. W. Products Co., Inc., Albany, N. Y.). E. W. Tinker, Secretary, reports.

U. S. Asphalt Products

Asphalt Roofing—May shipments of asphalt roofing declined moderately from April, according to the Bureau of the Census, Department of Commerce. May shipments totaled 4,197,000 squares, 10 percent less than the 4,650,000 squares shipped in the previous month and 9 percent smaller than shipments in May 1948.

Asphalt Sidings—Shipments of asphalt sidings in May amounted to 168,000 squares, a slight drop from April, and more than 45,000 squares, or 21 percent below shipments in May 1948.

Saturated Felts—Shipments of saturated felts in May totaled 38,005 tons, 16 percent less than April and only 72 percent as large as the 52,476 tons shipped in May of last year.

General—The figures include direct shipments (export and domestic) from the producing plants and from warehouses served by or operated in conjunction with these plants. Shipments of the listed products to other manufacturers of these products are not included in order to avoid duplication. Only those products having a base of dry felt or other organic binder are covered in this report. No data are included for products which were made with an asbestos base. In table 1, statistics are shown for shipments from plants and warehouses located in the Eastern and Western Areas of the United States. For the purpose of this report, the Western Area includes the States of Arizona, California, Idaho, Nevada, Oregon, Utah, and Washington. The Eastern Area comprises all other States. Table 2 presents data on shipments of three major types of products by Census Geographic Division. The statistics in these two tables are based on practically complete coverage of the industry. Estimates for a few nonreporting companies are included in the figures. Each total in which the estimate exceeds 5 percent is noted in the table and the percentage of estimate is given in a footnote to the table.

† Source, Bureau of the Census, Industry Div., Minerals Section.

Asbestos Paper Production Drops

OTTAWA—With reduced production due to labor strike, Canadian Government announces producers' shipments of asbestos paper stocks dropped to 2,164 tons in May, compared with 7,462 tons in same month last year and cumulative total reached only 14,346 tons in the first five months of 1949 ending May, as against 32,295 tons a year ago in corresponding period.

Canadian producers' shipments of other asbestos products showed the following in May, with figures for May a year ago being given in brackets: crude, 21(86) tons; spinning stocks, 572(2,956); shingle stocks, 5,575(10,822); waste, stucco or plaster, 3,844(11,992); refuse or shorts, 10,537(26,837); total, 22,713(60,155).

Such shipments in the first five months ended May, 1949, showed the following, with figures for corresponding period of 1948 being given in brackets: crude, 170(368) tons; spinning stocks, 4,288(12,063); shingle stocks, 21,557(47,105); waste, stucco or plaster, 20,856(49,633); refuse or shorts, 64,288(139,565).

This official report also adds that Canadian exports of asbestos products

in April this year dropped to 14,229 tons, compared with 59,478 tons a year ago in same month; and totaled merely 103,246 tons in the first four months of 1949 ended April, as against 209,309 tons last year in the same period.

Exports in April showed the following, with figures for April a year ago in brackets: crude, nil (82) tons; milled fibres, 4,261 (19,214); waste, refuse, shorts, 9,968 (40,182). These exports in Jan.-to-April period were as follows, figures for similar period last year being in brackets: crude, 147 (325) tons; milled fibres, 32,346 (67,772); waste, refuse, shorts, 70,753 (141,212.

Bowles Deplores High Electric Rates

HARTFORD, Conn.—The office of Gov. Chester Bowles has made public a letter the governor had written to Charles L. Campbell, board chairman of the Connecticut Light & Power Co., complaining about the high rates charged in Connecticut for electric power.

In the letter, the governor said he is disturbed about the high electric power rates charged in the state.

Noting figures supplied to him by the Edison Electric Institute, Gov. Bowles said that small commercial and industrial users in Connecticut pay 30 percent more for electrical power than the national average, while large industrial users pay almost 70 percent more than the country's average.

S. C. Paper Industry Growth

COLUMBIA, S. C.—L. W. Bishop, director of South Carolina's state research, planning and development board, cites figures released by the Fifth District Federal Reserve Bank to show that the value added by manufacture in paper and allied products in the state in 1947 was $36,900,000. The percentage of increase in the state between 1939 and 1947 was 319.3 per cent; while for the nation as a whole it was 223.8 per cent and for the Fifth district 252.8 per cent. The value added by manufacture is computed by subtracting the cost of materials and supplies from the value of shipments.

South African Soda Ash Plant

WASHINGTON — Imports of soda ash from the United States may be greatly reduced, it is expected in Union of South Africa, after a large soda ash plant to be erected near Douglas, North Cape Province, goes into operation, according to advices received here. Manufacture is not scheduled to begin for three years, however. Soda ash formerly was imported into the Union from Japan and Germany, and only more recently, from this country.

Dr. White to U. of B. C.

VANCOUVER, B. C.—Dr. E. V. White has joined the chemistry department of the University of British Columbia as professor of organic chemistry. He was formerly professor of wood utilization at the University of Idaho.

Korean Trade Mission

OTTAWA—The Korean trade mission, which came to Ottawa to look into the possibilities of getting Canadian pulp and paper for Korean products, were the guests recently of the Department of Trade and Commerce at a dinner at the Rideau Club and held discussions with officials of the Canadian Government, later visiting the International Paper Co. plant at Gatineau.

Purpose of the visit is said to be the developing of a bilateral trade deal with Canada involving the importation of pulp and paper products or other supplies for Korean products.

The mission includes Yong Joo Kim, representing the Korean Steamship Co.; Yong Won Kim, representing the Seoul Spinning Co.; Se Hyun Rhee, silk manufacturer; and Hang Sup Chun, importer and exporter.

The party will have visited several Canadian cities before returning, including Ottawa.

Japan Must Grow Own Pulpwood

TOKYO—In the present world shortage of pulpwood, Japan cannot rely upon imports to relieve her scarcity. Reforestation, says Harold E. Murdock, is Japan's only way out. He is with the forestry division of General MacArthur's natural resources section. Mr. Murdock recently returned to Tokyo from Montreal where he attended FAO conference on pulpwood problems called by the United Nations.

Before the war, Japan was the major producer in Asia. She produced and consumed five percent of the world's pulpwood volume. Now she produces and consumes two percent, Mr. Murdock points out.

Canadian Labor Relations

OTTAWA—Labor relations in the pulp and paper industry across Canada are continuing relatively free from much disturbance and no significant difficulties are reported over wages in labor-management negotiations where these have occurred lately, though it is understood that the changing conditions in the pulp and paper industry as a whole across the county may have been strong influences in discouraging any sharp wage demands at this time, even if conditions of work, such as holidays with pay and other minor concessions may have been sought and granted.

Maine U. Faculty Additions

ORONO, Me.—Dr. Richard E. Durst, Worthington, Ohio, has been named associate professor of chemical engineering at the University of Maine. Dr. Nils K. Nelson, Farmington, Mo., and Dr. Robert D. Dunlap, Carbondale, Pa., have also been named instructors in chemistry, and Andrew J. Chase, Orono, instructor in chemical engineering.

Four New Scutan Grades

NEW YORK—Four new grades of Scutan weatherproof protective paper have been introduced by the Union Bag & Paper Corp.

Canada Newsprint to "Down Under"

OTTAWA—Exports of newsprint from Canada to Australia in the past year, 1948, amounted to $4.3 millions and other shipments included $1 million worth of sulphite pulp, $800,000 paper machinery, and $700,000 of asbestos, it is reported, with shipments of timber totalling $4,000,000.

Canadian shipments of newsprint in 1948 to New Zealand amounted to $2.5 millions and others involved $700,000 worth of paperboard, $600,000 of bookpaper, $200,000 wrapping paper, and $300,000 bond paper, with timber shipments from Canada totalling $1.2 millions.

Newsprint Action Urged

PARIS—Measures to improve the supply of newsprint throughout the world were among final recommendations approved here on August 3 by a technical needs commission of the United Nations Educational, Scientific and Cultural Organization.

The proposed measures included greater production of newsprint, removal of tariff barriers and allocation of foreign exchange.

New Conductive Material

TRENTON, N.J.—New conductive material incorporated into laminated plastics which are to be electrostatically spray-painted makes possible more efficient surfacing, the Panelyte Division of the St. Regis Paper Co. reports. Conductivity of the laminates, it is explained, enables magnetism to attract paint particles as they are sprayed under low pressure in a field of high voltage static electricity.

Export Permit List Dwindling

OTTAWA — Export permits are still required by the Canadian Government for certain pulpwood products, for asbestos products exceeding $25 in value. The range of items requiring permits has been reduced from a peak of 1,109 to 137.

Stansfield to U. S. in Sept.

BOSTON—Ernest Stansfield, director of Edwin Butterworth & Co., Ltd., Manchester, Eng., expects to come to the U. S. early in September, when he will visit the office of E. Butterworth & Co., Inc., paper stock.

Windsor Locks Tinted Tissue

WINDSOR LOCKS, Pa.—A new colored bathroom tissue called "Sure" has been introduced by the Windsor Locks Paper Corp., in peach, green, blue and yellow.

U. N. Resources Conference

OTTAWA—Hon. Lester Pearson, secretary of state for external affairs, has announced that the Canadian delegation to the United Nations Scientific Conference on the Conservation and Utilization of Resources, to be held at Lake Success August 17-September 6, will be headed by Dr. H. L. Keenleyside, deputy minister of mines and re-

sources, and will include George Tunstell, of the Canadian Government's Forest Service; I. R. Strome, Water & Power Bureau, etc.

During the Conference, papers will be presented by representatives of the National Research Council, the Department of Mines and Resources, Ontario Research Foundation, and Canadian universities and industries.

SUPPLIERS . . . . .

Hanchett Mfg. Co., Big Rapids, Mich., manufacturer of Covel-Hanchett saw sharpening and knife grinding equipment and accessories, is doubling its manufacturing capacity Kent S. Hanchett, newly elected president of the company, reports. Until recently, Hanchett also manufactured and sold surface grinders. That item has been discontinued. Other new officers elected include: Fred C. Schaub, vice-president; Loren B. Hanchett, secretary; Carl L. Moline, treasurer; Frederick M. Risler, general sales manager.

Experiments with a portable kitchen to serve workmen in the woods are being conducted by the B. C. Forest Service. A mobile kitchen has been designed by Norton Engineering Works, 2040 Cadboro Bay Road, Victoria, B. C. The unit is 22 feet long, ten feet high and six and one-half feet wide. The trailer is built to serve as a dining hall and kitchen for the gangs of from eight to ten men. The kitchen is equipped with wood stove, kerosene refrigerator, marine type crockery racks, sink, and running water supplied by a marine type hand pump fed by a 120 gallon storage tank series under the floor. The dining room has an L shaped masonite-topped table surrounded on both sides by green leather upholstered seats fastened to the floor. The unit weighs four and one half tons. It is wired for 110 volts, and equipped with airbrakes operators from the towtruck. During winter a canvas skirt extends from the unit to the ground and by placing two kerosene lamps under the water storage tanks it is believed trouble from frozen water will be overcome.

George S. Dively, president of the Harris-Seybold Co., Cleveland, has been named as one of ten leaders at the Seventh Annual Employer-Employe Relations Conference to be held by the Merchants & Mfrs. Assn., Los Angeles, at Palm Springs, Calif., October 17-20.

Kenneth E. Reynolds has been named manager of analytical instrument sales of the Bausch & Lomb Optical Co., Rochester, N. Y., succeeding Charles C. Nitchie, who is retiring after 19 years with the firm.

E. R. Traxler has been named manager of the new flat belting field engineering and development department of the B. F. Goodrich Co. industrial products division, Akron, Ohio.

Hugh J. Hodgins, forest engineer, has established a private practice with offices in the Dominion building, Vancouver, B. C. Formerly chief forester for Pacific Mills, Ltd., Mr. Hodgins continues his association with that company as consulting forester.

Cellulose Assets Development Co., 412 Drummond building, Montreal 25, Canada, is a new firm of industrial consultants specializing in wood, paper and plastic products. The company was started by Dr. Alexander Szware who had been until recently with the Howard Smith Paper Mills, Ltd. Associated with him in the new company are Alan Swabey, patent attorney, and Stadler, Hurter & Co., consulting engineers.

Allis-Chalmers, Milwaukee, has named J. F. Fitzsimmons manager of the commercial research department, succeeding J. R. Reed, who resigned to establish his own business.

Chain Belt Co., Milwaukee, has named Douglas Jones manager of its Salt Lake City district office, operating as the Douglas Jones Co. at 1551 Redondo avenue.

Paul B. Withstandley has been named advertising manager of the Cameron Machine Co., Brooklyn, N. Y., manufacturer of slitting and rewinding machines for the paper industry, succeeding Harold Overacker, who will handle Cameron export sales. Mr. Withstandley was formerly with the Bristol-Meyers Co.

C. K. Williams & Co., East St. Louis, Ill., has named Robert E. Hathaway as New England sales representative with headquarters in Boston. He will assist Elmer H. Kroepel.

L. S. Starrett Co., Athol, Mass., has purchased the Burrill Saw & Tool Works, Ilion, N. Y., manufacturer of Paramount band knives and band saws. These products are now being manufactured by Starrett in the Athol plant and are being marketed under the Starrett name through Starrett distributors. Burrill items include band knives for cutting paper, and band saws for wood, metals, etc.

Matthew J. Delehaunty has been named district sales manager for the Pittsburgh branch of the mechanical goods division, United States Rubber Co.

Package Machinery Co., stockholders on July 29 ratified the recent purchase of the Frank D. Palmer Co., Inc., Chicago, and elected Charles E. Palmer, former president of the Chicago firm, a director of Package Machinery Co., and vice-president of the parent company.

George Terborgh, research director of the Machinery & Allied Products Institute, described equipment policy at the most backward area of industrial management in his new book, "Dynamic Equipment Policy."

"When private enterprise develops a predilection for antiques as instruments of production it can expect sooner or later to come under the critical scrutiny of government," he said. "An outstanding example of such technological degeneration and of the state intervention to which it inevitably leads may be found in Great Britain."

He also pointed out that many European countries are now rebuilding their economies with the latest equipment available, making it especially important for American industry to modernize to meet this stiffer competition.

"We are accustomed to consider American industry a model of vigor and enterprise in adopting advances in technology," he said. "Our practice may compare favorably, by and large, with that of other countries, but it nevertheless falls far short of what it should be. This country too has its quota of mechanical zombies."

Mr. Terborgh presented a replacement formula developed over many years of study and collaboration with executives in the capital goods industries. He also showed the errors in present rule-of-thumb replacement policies and illustrated application of the formula with numerous case examples.

Among the fallacies attacked is the idea that a high rate of return should be required to justify replacement. Mr. Terborgh gave the following analogy:

"A corporation has a president 70 years of age who in the judgment of the directors can be retired and replaced at a net annual advantage to the company of $10,000. Someone points out, however, that if he is kept to age 75, and if he suffers in the interval the increasing decreptitude normally to be expected, the gain from replacing him at that time will be $50,000 a year, while it should be substantially higher still, say $100,000 at the age of 80. It is urged therefore, that his retirement should be deferred.

"The genius advancing this proposal is recognized at once as a candidate for the booby hatch, yet it is no different in principle from the rate-of-return requirement."

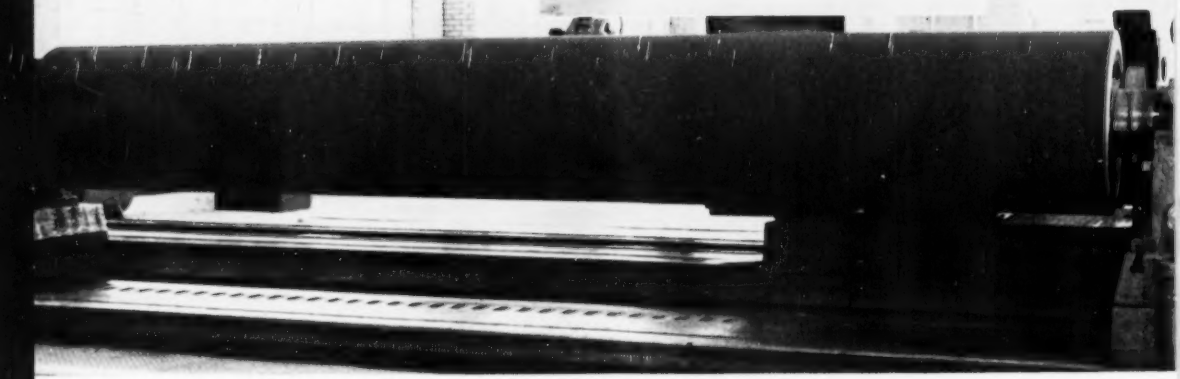
Only about one company in four has an equipment engineer who specializes in making replacement studies on which sound policy could be based, according to a survey of about 200 companies made by the Institute. The survey also revealed that most initial recommendations for new equipment come from superintendents, works managers, and department heads, while final decisions on re-equipment outlays are made by presidents or chief executive officers in 61 percent of the companies. Machinery salesmen, as a rule, do not reach the executives on whom decisions depend, getting beyond general management in only three cases out of ten, according to the study.

Mr. Terborgh previously wrote "The Bogey of Economic Maturity," published by the Institute. His present volume, published by the McGraw-Hill Book Co., is intended as a "bible" of reference and education in re-equipment policy for industrial management.

There's a NEW LOOK at Rubber Roll Headquarters!

Above: Exterior of new Ward plant addition at Stowe-Woodward, Inc.

Below: A section of the interior looking toward elevated loading platform. Farrel Grinder in rear, lathes in foreground, vulcanizers at left.



New 42' 3" Farrel Rubber Roll Grinder, LARGEST AND LONGEST OF ITS TYPE IN THE U.S.A.

You're looking at Stowe-Woodward's new Ward plant addition . . . built and equipped for the single purpose of making the finest rubber covered rolls to your most exacting requirements. Here you will find the tools, the will, and the skill that have justly made Stowe-Woodward the place to turn when quality is basic, service is urgent, or a new rubber roll development must be pioneered.

Typical of the new equipment is the Farrel Roll Grinder which will grind and crown rubber rolls 60" diameter by over 300" width of face with tolerances held to .0005". This grinder and other new facilities symbolize our determination to serve you even better in the days ahead.

STOWE-WOODWARD, INC.

Craftsmen in rubber

NEWTON UPPER FALLS 64, MASSACHUSETTS

Sveen Pedersen Savealls in Board Mills and Re-use of Water

By
PAUL EASTON
Service Engineer, Bulkley Dunton Company, New York, N. Y.

While it is not the intention of this discussion to delve into current events, we do feel that the current interest and activity in the subject of stream pollution should be mentioned. If you have been following the recent Sectional meeting schedules of the Superintendent's Association, you have noticed that practically every Group is devoting time to the study of stream pollution.

The recent meeting of the Northwestern Groups listened to J. M. Holderby, Coordinator, of Sulphite Pulp Manufacturers Research League, who presented what he terms a "Primer on Stream Pollution." All of us should familiarize ourselves with this basic paper. We believe that this interest in Stream Pollution is timely, and of utmost importance to the industry.

To emphasize this, you will recall that the 80th Congress of the United States put in effect Public Law 845 starting the Stream Pollution ball rolling on a national scale. Our impression is that the present law is only intended as a beginning and that subsequent laws will have more and more teeth in them. This may be prevented if the individual states establish suitable and enforceable legislation.

In the State Legislatures we have noticed an increasing awareness of stream pollution. Practically all States have taken some action on this problem in the past year. Commissions of varying types have been appointed or continued for study of the problem.

The paper industry as a whole is well aware of these legislative trends and has formed study groups of its own, on national, regional, state and local bases. It is felt that these studies are of great importance as through group action it may be possible to obtain economical solutions to some very troublesome process problems.

To the best of my knowledge no standards have been established in any division of the paper industry defining an acceptable mill effluent. Actually to establish standards on an equitable basis is a task of considerable magnitude. However, the industry needs standards and I believe that they will be established in the near future. Once these are established, real headway will be possible in overcoming effluent problems.

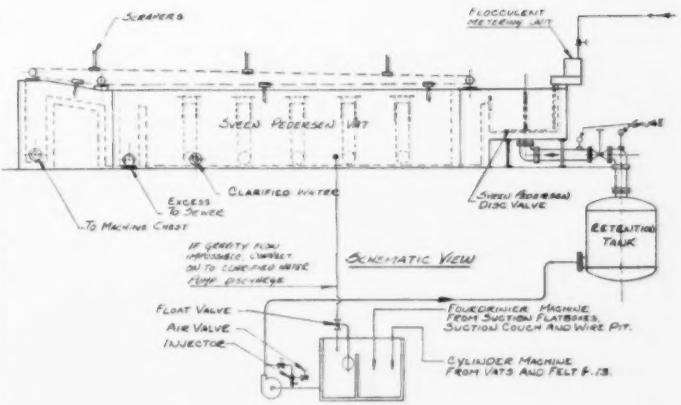


Figure 1

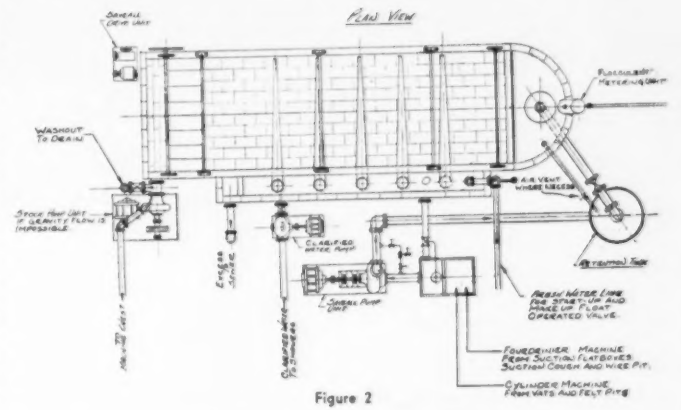

PLAN VIEW
OVERALL CHAIN UNIT
FLOCCULENT METERING UNIT
WASHOUT TO DRAIN
AIR VENT WHERE NEEDED
STOCK FLOW UNIT IF GRAVITY FLOW IS IMPOSSIBLE
CLARIFIED WATER PUMP
EXCESS TO SEWER
RETENTION TANK
FRESH WATER LINE FOR START-UP AND MAKE-UP FLOAT OPERATED VALVE
TO MACHINE CHEST
CLARIFIED WATER TO MACHINES
FOURDRINIER MACHINE FROM SUCTION FLATBOXES, SUCTION COUCH AND WIRE PIT.
CYLINDER MACHINE FROM VATS AND FELT PITS

Figure 2

The problem faced by the Superintendent of a cylinder board unit is not the same as the problem of the Superintendent of a sulphite pulp unit. The board mill has several proven processes available which offer an economic return while the sulphite pulp mill only has hopes.

The effluent water from a cylinder machine, when compared with a fourdrinier machine, contains a relatively low volume of filterable solids. This is usually about 4 lbs. per 1,000 gals. while the fourdrinier will contain from 12 to 40 lbs. and sometimes even higher. However, the Superintendent cannot assume that because the solids in his effluent water are low that his pollution load is low. Due to the nature of his furnish the opposite is generally true.

There are many things that he should do before he considers the installation

Presented at the American Pulp & Paper Mill Superintendents Ass'n., annual meeting, Atlantic City, June 15-18, 1949.

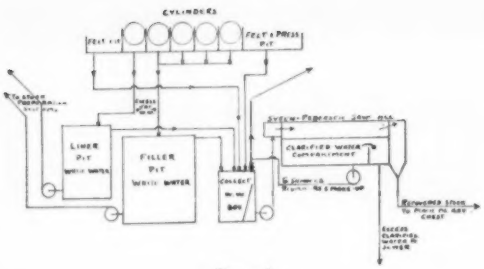


Figure 3

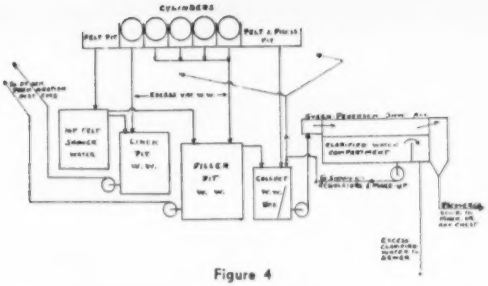


Figure 4

of recovery equipment. The first step is to reduce his effluent water to a minimum. This is accomplished by recycling to the beater room, recycling on showers and reducing shower volumes to a minimum. Such steps reduce the capacity of a saveall and as a consequence keep operating costs and invested capital at a minimum.

Attention should also be given to the type of material to be recovered. In any furnish it is to be expected that only the very fine material will find its way into the effluent water. Because of the very small particle size of the suspended solids we believe that a chemical saveall is the most efficient type to install. The Sveen Pedersen Flotation Saveall is an example of this type.

Chemical savealls in themselves are of two types. The oldest principle employed being sedimentation, and the second, being flotation. The flotation principle, while it is of much more recent invention has been successfully employed for many years in the paper and other industries. One of the more surprising places where flotation is employed is in the separation of mineral ores. When you consider the relative specific gravity of mineral ores and paper-making fibre and fillers, it makes the problems of separation by flotation of paper-making materials appear very simple.

It might well be said of the Sveen Pedersen Flotation Saveall, "Born of Necessity — fostered by Simplicity and Efficiency." Invented in Norway and brought to operating perfection through the combined efforts of Nils Pedersen and Karl Sveen, it soon found a prominent place in Europe serving the mills where water and coal were valuable and the overall economy of paper manufacture had to be maintained.

The adoption of the Sveen Pedersen unit has been as rapid in the United States as it was in Europe, which is proof of the fact that when simplicity and efficiency are combined, a perfect union has been formed.

Theory of the Saveall is as simple as dissolving air in white water, attaching these minute air bubbles to the solids in the white water, both fiber and filler, and allowing the released air bubbles to carry the particles to which they are attached to the surface. This is commonly demonstrated in a cloudy glass of tap water clarifying itself.

The white water is aerated by being held under pressure while air at atmospheric pressure is introduced. The attachment of the air to the solids is natural in a sulphate fiber furnish but with other fibers and fillers the colloidal chemical properties of the white water are changed through addition of a flocculating agent combined with an electrolyte, usually a tri-valent ion such as found in ordinary Papermaker's Alum.

After aeration and flocculation, the white water is released from pressure, the minute air bubbles carry the solids to the top of an open tank where a mat is formed and subsequently removed by mechanical means — slowly moving skimming blades which return the recovered solids to the manufacturing process.

Through this process the white water is clarified, the clarified water being carried out of the bottom of the open tank by means of properly distributed tubes and delivered to a supply tank on the side of the unit.

In order to be sure that everyone is familiar with the principle of flotation as employed in the Sveen Pedersen, I would like to take a few minutes to describe its operation in greater detail.

Figure 1. This is a schematic flow diagram of the Sveen Pedersen Saveall. In the lower center we show a Collection Box for all excess machine water. This can be a machine pit, white water tank, or other suitable point for the collection of excess water. The water is then pumped to the saveall. You will observe a small recycling line from the pressure to suction side of the pump. At this point approximately 1 percent of air, by volume, is added to the water. The air is dissolved in the water by means of pressure and time. The pump at this point should be able to furnish the required flow containing the 1 percent air at a pressure of 40 to 60 psi. You will also observe that

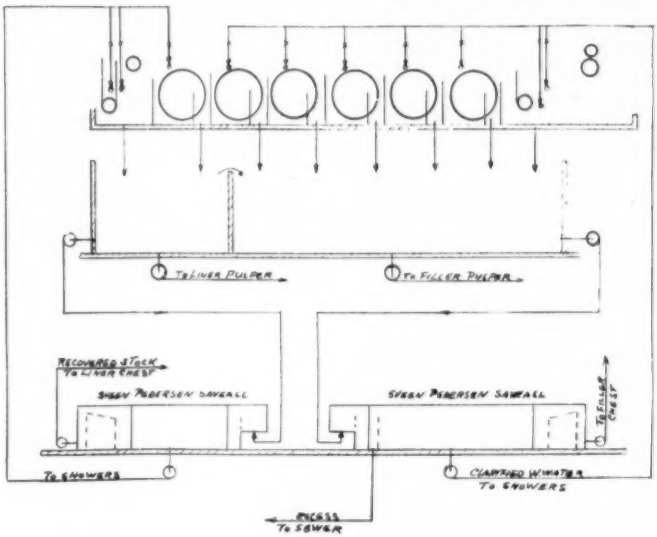


Figure 5

in going to the saveall a Retention Tank is shown. The reason for this tank is to allow sufficient time to dissolve the air in the water. In order to insure complete solution of the air, approximately one minute is required from the discharge of the saveall pump

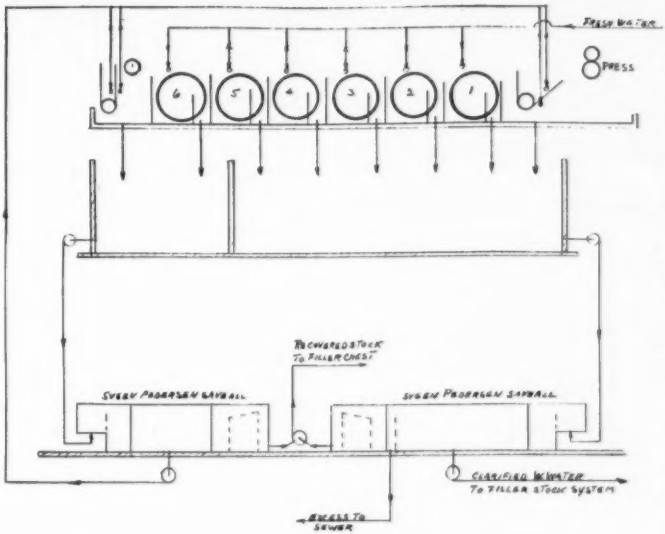


Figure 6

to the inlet valve on the saveall proper.

The water enters the saveall through a special double disc inlet valve or valves where the pressure is released. The proper release of pressure is extremely important. In actual operation the valve at this point drops the pressure to below atmosphere causing a colloidal type air bubble to be formed.

In the inlet chamber turbulent flows are encountered where a flocculent solution is metered into the water flow and mixing is accomplished by turbulence. The water passes from the inlet compartment over a leveling board into the flotation chamber. Here a quiet flow is obtained which allows flocced fiber and filler to be floated to the surface by means of the gradual coagulation with the colloidal air bubbles. In operation the colloidal air bubbles attach themselves to the fibre floc and act as an elevator to bring the solids to the surface. The recovered solids are then skimmed from the surface by means of a scraper flight. The removed solids are returned to the papermaking system at 2 to 3 percent consistency. The clarified water is taken from the bottom of the saveall by means of tapered outlet tubes shown in *Figure 2*. These tubes are so engineered that they withdraw water uniformly across the width of the saveall and do not create any currents which would interfere with the flotation processes.

The solids of the recovered fibre are controlled by the dip of the scraper paddles. This is controlled by adjusting the sleeves on the risen section of the outlet tubes (Figure 1). This raises or lowers the level in the saveall and as a consequence the level can be adjusted to just skim the recovered mat off the saveall.

Now that we have looked at the schematic flow from the Sveen Pedersen Saveall, let's take a look at some schematic flow sheets on mill water systems.

Figure 3 shows a schematic arrangement for a machine making single lined grades where liner and filler waters are kept separate and unclarified water from each section is used to furnish the respective stock preparation system. The advantage of this system is that neither the liner nor filler pit water is diluted with the felt shower water, so only excess vat water is reused for stock preparation.

There will be sufficient water here as the mold showers will more than make up for the evaporation loss. Excess water from both liner and filler systems overflows directly to a collection box where felt shower and press waters are also collected for clarification by the Sveen Pedersen. The clarified Sveen Pedersen water is returned to the felt showers, consistency regulators, etc. In order to insure cleanliness it will be necessary to use fresh water on the top felt and liner mold showers when making quality grades. Excess clarified water will go to the sewer.

Figure 4 again shows a similar system for the manufacture of lined grades. In this system top felt water is kept separate for makeup on either liner or filler systems.

The richest water is used for beater furnishing and the excess going to the saveall where it is clarified and returned to the felt and mold showers. Again when the utmost in cleanliness is required, it will be necessary to use fresh water on the top felt and liner mold showers.

Figure 5 shows a two saveall system on one machine for making lined grades. This type of installation provides a maximum in efficiency and saving. You will observe that two complete and separate white water systems are employed here with the utmost in simplicity. The liner system contains a collection section of the machine pit for excess liner vat water and felt shower water. The stock preparation system has first call on the pit water all other water goes to the saveall. From the saveall the clarified effluent is used for felt and mold showers and the valuable recovered stock returned to the liner stock system. There is one very important point, not shown, that

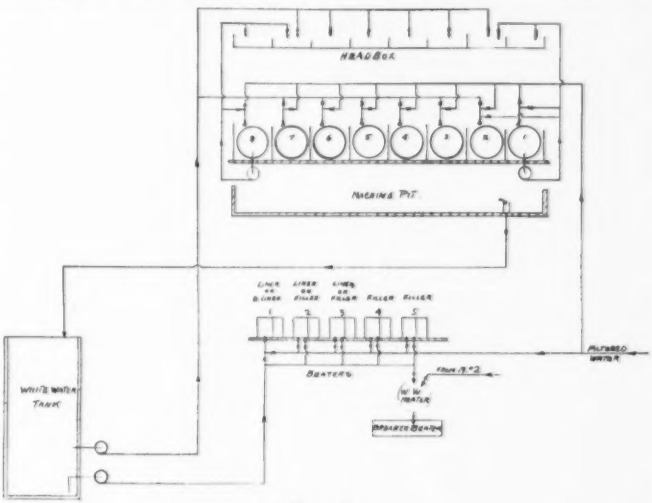


Figure 7

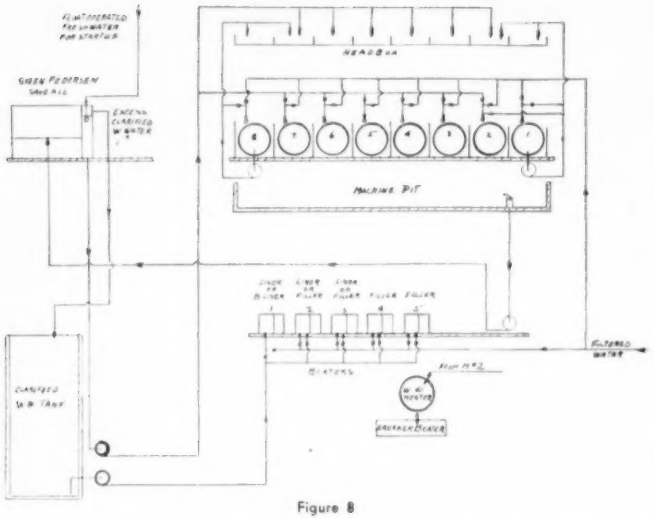


Figure 8

must not be overlooked if cleanliness in the water system is to be maintained. An extractor roll is often installed close to the top felt showers. The water removed by this roll and its shower water must be returned to the filler system and not the liner system. The reasons for this are obvious.

The filler white water system is normal. The pulpers have first call on the pit water. The clarified water goes to all shower points and the recovered stock returns to the filler system. Many of you will wonder what provision is made to compensate for evaporation loss. This loss is actually not too great, on a 200-ton machine where the sheet leaves the press section at 30 percent solids and is dried to 92 percent solids the evaporation is only 74 gallons per minute. This can be made up at stock regulators, screen showers or at any convenient point.

Figure 6 again shows a dual white water system. One of the interesting points about this system is that all water is clarified including beater furnish water. This system is one that the stream pollution people should like as it is so designed and balanced that no water can reach the sewer without going through the Sveen Pedersen Saveall. The design is such that overflows cannot occur when the beater room is not using any water. The general operation of the mill requires the use of fresh water in liner beater furnishes. The excess water from the liner mold or molds and the top felt water are collected and clarified by the saveall. The effluent water is sufficient to supply all felt showers.

The use of only liner system water on top and bottom felts eliminates any possibility of contamination from the filler furnish, and also allows the manufacture of double lined grades without changing the type of water used on the bottom felt showers.

The use of only liner system water on top and bottom felts eliminates any possibility of contamination from the filler furnish, and also allows the manufacture of double lined grades without changing the type of water used on the bottom felt showers.

The mold showers are Broughtons and are operated on fresh water. The effluent water from the filler section is clarified and used in the filler pulpers. The excess clarified filler water goes to the sewer. You will also observe that no attempt is being made to separate recovered liner and filler stock, as all of the recovered fibre from both savealls is returned to the filler stock system. The separation can easily be accomplished.

Figures 7 and *8* show a white water system before and after the inclusion of a Sveen Pedersen Saveall. Figure 7 presents a more or less conventional system with a large white water storage tank that also acts as a sedimentation tank. Difficulties with such a system are often found in an increasing quantity of fines as an order progresses with the consequent loss in test. This is overcome in operation by bleeding the tank to the sewer with the loss of solids and slugging sewer or stream.

Figure 8 shows a Sveen Pedersen taking all of the excess water, so that a continuous separation of fibre and water takes place. The recovered fibre is returned to the stock system with a uniform flow which does not upset the fibre balance in the furnish. The showers are supplied with clarified water direct from the saveall and excess water is stored for beater furnishing and other uses as desired.

Figures 9 and *10* again show a "before-and-after" flow diagram. In Figure 9 plain sedimentation has been employed before effluent water went to the sewer. Settled fibre is withdrawn with the water for furnishing to the pulper. All felt showers are on fresh water and discharge directly to the sewer.

Figure 10 shows a Sveen Pedersen fitted into the same system. A collection box is shown here where excess pit water is collected with top and bottom felt shower water and extractor roll water. The collected machine effluent is pumped to the Sveen Pedersen Saveall. The recovered stock is returned to the filler system and the clarified water is used on felt and mold showers. Excess clarified water is stored in existing tanks as a reserve supply in case it is needed for pulper furnishing.

Now that we have examined briefly

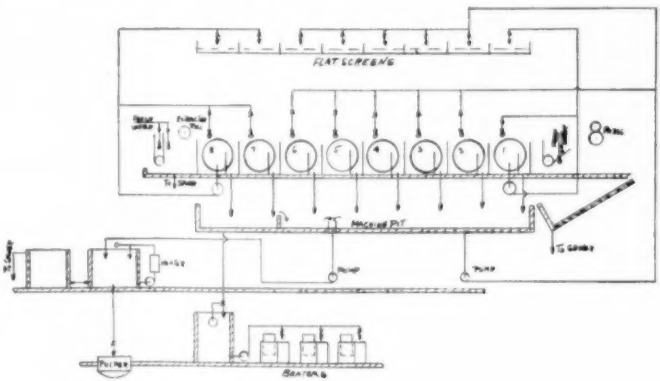


Figure 9

a few schematic flow systems, let's consider the practical operation of the Sveen Pedersen Saveall. You will recall that we called the Sveen Pedersen system a chemical type saveall. As such, we depend upon chemical coagulation for efficient operation. To secure coagulation certain chemical conditions must exist. The first of these is proper pH range. Generally speaking

coagulation will not take place above pH of 7.0. The second condition necessary is the presence of available Alumina in the water. The average chip furnish is lacking in both. Therefore, to secure the desired chemical conditions, it is necessary to add sufficient Papermaker's Alum to the system to reduce the pH to slightly below 7.0. This can be accomplished by adding liquid alum, when available, or dry alum through a dry chemical feeder, to the water just ahead of the saveall pump.

The second chemical addition is the floc producer. This can be any of several colloidally active chemicals. The ones used more frequently are Sveen Glue and Activated Silica Sol.

In order to secure proper activity of either of the mentioned floc producers, suitable preparation methods must be employed. There are certain chemical changes that must take place, and therefore preparation methods should be closely followed.

Best continuous operation is obtained when only one or two men are allowed to adjust the saveall flows. The action here is very similar to the old saying, "Too many cooks spoil the broth." We do not mean to say that a full-time operator is required, we only want to point out that better chemical balance and lower cost is usually obtained through an assignment of responsibility.

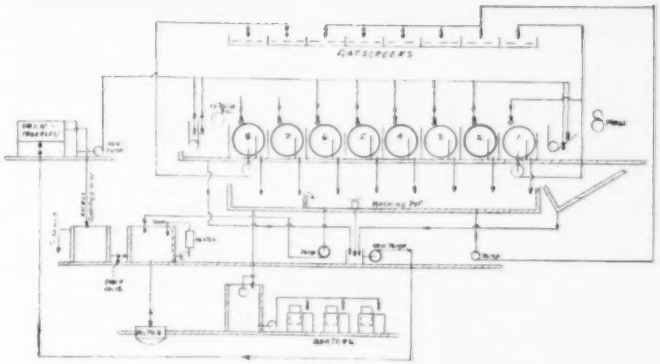


Figure 10

There are some other limiting factors that can cause difficulties. One of these is "total acidity". This condition is usually caused by the use of excessive alum in the furnish and is not conducive to good paper making. When such conditions exist the excess acid acts as a dispersing agent, preventing flocculation. There are several other dispersing agents which have an adverse effect on the floc formation when used in the system. However, these conditions are seldom found in the paper industry, and when recognized can usually be corrected to overcome any operating problems.

The above-mentioned conditions, when they exist, effect all savealls, whether chemical or mechanical. The same action which prevents flocculation of the suspended material will cause the suspended solids to pass through a fibre mat. In other words, when the individual fibres repel each other they will avoid the collisions and adhesions to each other which makes the functioning of any saveall possible.

The Modern Supercalender

By

E. E. THOMAS

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Introduction

Since the advent of "On the Machine" coating of paper and tis now well established place in the paper industry, the conversion phase of paper manufacture receives a great deal of attention by virtue of its influence upon the paramount requirement of "On the Machine" coated paper for maximum low cost production.

It is not my intent to dwell upon the subject of Machine Coated Papers or any particular class of paper, but one cannot discuss improvements, in Winders, Rewinders and Supercalenders without recognition of the tremendous influence that "On-Machine Coated" paper manufacture has had in the modernization of these two pieces of equipment and especially on the supercalender.

The Modern Supercalender was born of necessity to meet the demands of the Machine Coated Paper process for increased capacity at a minimum cost in conversion, in which service it has established a satisfactory record covering the past three or four years.

The conventional type Supercalender of pre-war years was not suitable for adaption to the rigorous demands of service in Machine-Coated Papers. Such units were light in structure, narrow in width, slow in speed, lacking in power and above all, lacking in efficiency of operation.

The modern stack must, therefore, be able to hold and maintain high productive capacity for prolonged periods of time in service, must require a minimum of operating and maintenance attention and must show an increase in efficiency by the elimination of unnecessary down time.

To compensate for the heavier duty expected of it by virtue of increases in width, speeds, pressure, added inertia of moving parts and to eliminate distortion and insure against mechanical break downs, it was necessary to make the machine structure and component parts stronger and more massive.

Framework

There exists two type of framework for stacks. One type using two sturdily built rear columns or uprights only is known to the trade as "Open Face" type; the other, using four columns, is known as the "Conventional type" and is more commonly used.

In the open face type stack, rolls are held in their relative position by means of cantilever type of suspension and removal of rolls is in a frontal direction by disconnecting bearing housings from attachment to frame or cantilever arms. It is claimed that this type framework saves time in roll changes.

In the conventional type stack, roll and bearings are nested between the four uprights and removal of same is in an endwise direction. The advantage of this type is the ability to suspend auxiliary equipment (such as flyrolls, steam showers, etc.) independent of main rolls.

Framework therefore consists of uprights or columns amply proportioned in either cast iron or welded steel construction. In the majority of cases, stress normalized structural steel weldments have replaced cast iron for the columns of such supercalenders. The advantage in the use of such steel weldments lies in the fact that columns can be made longer or shorter to suit the complement of rolls without having to change patterns as would be the case in cast iron.

In addition to housing the main calender rolls, the framework supports all auxiliary equipment such as fly rolls, steam showers, doctors, access platforms and ladders—and in the case of

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coated book stacks, the elevated unwind equipment.

Rolls

The number of calender rolls required varies with the class of paper to be supered and the objective to be attained in the end results. Up-to-date commercial stacks have been equipped with not less than ten and twelve rolls and the future tendency is to go to a greater number of rolls to compensate for the increased speed.

The preference for increase in number of rolls and nips is logical. The advantage in the use of more nips is manifested by decrease in the intensity of nip pressure, resulting in longer life of filled rolls and better quality in the finished paper.

Rolls are equipped with anti-friction bearings to provide a stack free from oil accumulation and to maintain calender rolls in vertical alignment at all times, thus eliminating a tendency for endwise crowding of rolls.

In general the construction of chilled and filled rolls has changed little in the modern stack; however, bottom and top rolls of chilled iron have increased in diameter to compensate for the increase in size of anti-friction bearings as recommended by the bearing manufacturer. Such increase in diameter has resulted in a decrease in the amount of crown necessary on these rolls, thereby giving greater latitude in supering a wider range of paper characteristics.

Concerning intermediate chilled iron rolls, past experience in supering at high speeds, indicates that all chilled rolls should be bored axially to permit the use of steam or cooling water.

The improvements made on filled rolls has been in the substitution of screw type heads in place of the old wedge type heads, thus permitting uniformity in density of filler material from end to end of roll. Research and development in various raw materials has made available a wide selection of grades of filler material to suit all conditions of operation.

Bearings and Their Lubrication

Anti-friction bearings are housed in oil-tight, dust-proof housings and are lubricated by a force feed system. Endwise expansion of such rolls is provided for by the use of straight rollers installed on the off-drive end while spherical roller bearings are installed on the opposite end of such rolls.

Anti-friction bearings for use on intermediate rolls are of the taper sleeve type, permitting rapid removal of same when routine changes of such rolls are necessary.

Lubrication

Prior to the application of properly proportioned anti-friction bearings to suit the calender rolls, heat usually flowed from the ends toward the center, due to the greater amount of friction at the bearings. With anti-friction bearing rolls and proper conditioning of rolls, the center will tend to rise in temperature before the ends. Lubrication under the latter conditions becomes primarily one of using the oil as a medium of temperature control of bearings.

On the modern stack, the lubrication system is a self-contained, closed circulatory one in which the oil is pumped to the bearings and gravity flow returned to the supply source. Such a system consists of a supply tank, a motor-driven pump, filter, cooler, and necessary sight feed lubricators. The amount of oil to bearings is regulated by these sight feed lubricators. That portion of the total oil circulated and going to the bearings is filtered. Temperatures of oil can be regulated by heating oil in supply tank or by cooling oil in transfer cooler system which can be thermostatically controlled.

Nip Pressure Loading System

The more exacting demands of precision control of pressure and quick response to manipulation in order to save damage to filled rolls have been met with the use of pneumatic or hydraulic equipment and controls.

The type of system used is determined by the maximum pressure to be encountered, the general conditions of operation, and initial cost. Preferance favors the use of the direct pressure, oil-hydraulic system for high pressures or the pneumatic operated system where pressure limits permit. The direct pressure has the advantage that by the use of double acting cylinders, roll raising is accomplished with the same equipment.

Rolls are raised by means of a series of connecting links installed between bearings. In the raising operation, the top roll picks up next lower roll, and so on down the stack.

Where conditons demand the use of high pressures without expensive equipment the use of the pneumatic operated compound lever system will be found satisfactory. In this system, however, it is necessary to provide separate equipment for lifting rolls. This is usually accomplished by a gear motor which drives roll raising screws to which bearing housings are connected.

The quick response to manipulation and easier operation of the oil hydraulic type has won the favor of operators wherever used. Like the pneumatic system, pressure can be adjusted while stacks are operating with the movement of a single lever. In records obtained from the operation of a hydraulic system, pressure on a nine-roll stack can be released and each nip separated ½ inch in twenty seconds. The return to full pressure can be made in the same length of time. This is a very important factor on roll life.

The system is self-contained and consists of a supply tank, motor driven pump, automatic functioning valves, hand controlled valves, and instruments for control of flow to and from double acting cylinders. Systems are designed for maximum pressure of 1,000 pounds/square inch. Working pressures usually range from 600-800 pounds/square inch and for most papers, pressures used on the cylinders vary from 100 to 400 pounds/square inch.

Auxiliary Equipment

This portion of equpiment, consisting of lead on, spread, and fly rolls, steam showers, roll doctors, lead off rolls, unwind and wind-up equipment, constitutes the control headquarters of the supercalender. Through this portion comes manipulation of operational variables to suit paper characteristics, to assist in quality attainment in end results.

The modern stack is equipped with spring suspended lead on roll to eliminate breakage of web between unwind and top roll cores by small variations in tension, due to out of round parent rolls and variations in intensity of initial web stresses.

Crowned spread rolls and wormed fly rolls furnish the kind of motion and the essential distance and time required for the web to recover from the effects of up-stream action before entering the next downstream nip and thus reduce tendency of web to wrinkle and damage filled rolls.

Steam showers provide surface moistening and plasticity of the sheet to assist in the attainment of smoothness and gloss.

In many installations two roll-doctors have been found sufficient—one for the top and one for the bottom roll. These are used to keep the roll surfaces clean and prevent "wrap arounds" when paper breaks occur, thus saving damage to filled rolls. Doctors are equipped with oscillating devices to prevent wringer marks occurring on the surface. On some supercalenders all chilled iron rolls are equipped with doctors.

Unwind and Wind-up Equipment

This portion of a supercalender continues to command the interest of both the user and the builder of this equipment, because it is through this portion that the greatest amount of down-time can be saved.

Pre-war supercalenders were seldom equipped to handle parent rolls exceeding 24 inches in diameter, including core. Modern stacks are built to accommodate rolls 40 inches in diameter and the more recent stacks being built are able to handle 60 inch diameter parent rolls.

The majority of modern stacks are equipped with unwind and wind-up as separate units. On calenders designed for coated book papers, the unwind is located close to the top roll thus allowing a short draw. The reel or wind-up is located in front of the bottom roll at a suitable distance from the stack.

In almost all cases, the preference is for the center wind type of equipment for both unwind and wind-up. Some stacks are equipped with two-drum surface winders as wind-up, while others have the combination center wind and surface type, such as the Pope Reel.

The choice in selection of the type

of wind-up is governed by the conditions surrounding each installation and involves the question of economy in the choice of the type.

Conventional equipment of the center wind type consists of a shaft or spool supported between two bearing equipped stands and connected to a water cooled "hold back" friction brake on the unwind or to a slip belt drive for the wind-up. For stacks operating at moderate speeds and widths, this lower cost equipment has proven very satisfactory and simple to operate.

Some few supercalenders have been equipped with apparatus similar to that used on printing presses to make flying splices and thus maintain continuous operation. This equipment has a high initial cost which confines its use to wide stacks with high productivity of certain grades of paper.

On large sized units where conditions warrant, use of two-arm revolving type unwind will save time by having a spare parent roll in readiness for making a quick hand-made splice.

The greatest contributing factor in the success of supering paper at high speeds is the finesse in control of speed and web tension. Developments in automatic control and regulating equipment through the introduction of electronic devices and rotating regulators made this possible.

The use of automatic control of web tension had done much to eliminate down-time resultant from breaks in paper due to the sudden change in tension, not to mention the better quality of wound rolls.

Electric Tension Control

A decided advantage in the use of this automatic control web tension is that it allows the supercalender operator more time to observe the condition of the parent roll for such items as approaching splices, edge tear-outs, etc., and wrinkle tendencies. Another advantage is the saving in power since, as speeds and widths increase, the horsepower which must be absorbed by mechanical friction brakes becomes very substantial, and cooling water must be used to dissipate the heat generated. With constant tension provided by the electric regenerative braking, the drive motor returns power to the line, so that the energy is not wasted. This means a substantial saving in electricity.

Electric Drive

Modern stacks are equipped with adjustable voltage D-C drives for the control of speed. Such apparatus consists of a motor generator set, a main motor and reducer, control panels, electronic devices, and rotating regulators.

The controls consist of push-button operated contactors relays, rheostats, etc., to control the various steps in speed control necesary for operational convenience such as Start, Stop, Run, Fast, Slow, Inch and Reverse.

The Modern Supercalender—Types & Sizes

The modern stacks are built in three types, Laboratory, Book Paper & Glassine types. Laboratory types range from the three roll, 10 inch wide unit for sheet samples to the five and six roll, 12 inch to 26 inch wide unit for Roll Supering. Book paper types range from seven to fourteen rolls and widths from 40 inch to over 200 inch with maximum nip pressure of 1000-2000 pounds per linear inch and speeds up to 3000 f.p.m. Glassine Types vary from 16 to 20 rolls high in width 40 inch to 96 inches with pressures of 2000 to 3500 pounds per inch of Nip and speeds up to 1500 r.p.m.

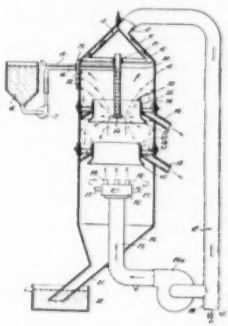
Except in the Laboratory type, Supercalenders are custom built to suit the demands of the service expected of them.

Patent Abstracts

● ***In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information to our readers are included herein.***

2,461,584—Air Separation Method for Slurry Separation. Axel Brix Andersen, Larchmont, and Knud Horn, New York, N. Y., assignors to F. L. Smidth & Co., New York, N. Y., a corporation of New Jersey. Filed June 14, 1944—Issued Feb. 15, 1949.

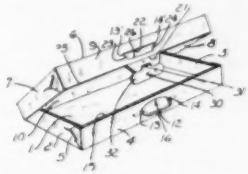
A method of treating slurry, which comprises creating a current of air through an enclosed



space, discharging slurry into the air current by atomizing the slurry to form a fine spray thereof, the air current causing the drops of slurry to be carried along with it for distances varying inversely with the specific gravity of the drops, and separately collecting fractions of the slurry at points spaced along the path of flow of the air.

2,461,618. Folding Box. Alvin Whittaker, Burbank, Calif. Filed October 9, 1945—Issued Feb. 15, 1949.

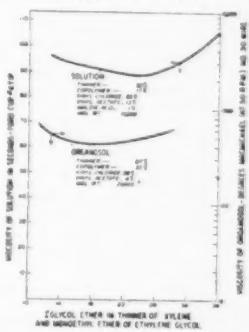
In a one-piece folding box adapted to form a bottom provided with upstanding side walls and a front end wall, a cover provided with upstanding side walls and a front end wall, and an end wall common to a bottom and cover, the provision of: a slit formed in the mid portion of the front end wall connected to the bottom, said slit having end portions extending from longitudinally spaced aligned points of origin substantially midway between the longitudinal edges of the front end wall in a direction toward the free edge of said wall, and a central portion adjacent such free edge; an aperture in the mid portion of the front end wall of the cover, said aperture having one longitudinal edge extending between points in substantial registry with the points of origin of the slit when said front end wall of the cover is placed in overlapping relation to the front end wall of the bottom, and a curved marginal edge having end portions extending toward the free edge of the end wall and a central portion ad-



jacent such free edge; said aperture being of a size and shape to freely receive the bail of a handle extending from the points of origin of the slit while lying substantially flat against said first front end wall, the front end wall of the cover adjacent the longitudinal edge of the aperture covering the slit and holding the bail against lateral movement.

2,461,613 — Dispersions of Vinyl Chloride Resins. Richard W. Quarles, Pittsburgh, and Clayton I. Spessard, Leechburg, Pa., assignors to Carbide and Carbon Chemicals Corporation, a corporation of New York. Filed July 5, 1947—Issued Feb. 15, 1949.

A coating composition comprising a suspension of from 25 to 40 parts by weight of a finely-divided emulsion-polymerized vinyl chloride poly-



mer containing from 90 to 100% vinyl chloride by weight and having an average molecular weight above 20,000, in from 50 to 100 parts by weight of a suspension media composed of from 10 to 40% by weight of a lower monoalkyl ether containing up to six carbon atoms in the alkyl

radical of a glycol from the group consisting of ethylene and diethylene glycol and from 60 to 90% by weight of a liquid aromatic hydrocarbon, said suspension media containing dissolved therein from 2 to 10 parts by weight of a copolymer including combined vinyl chloride and vinyl acetate containing from 80 to 92% vinyl chloride by weight and having an average molecular weight of from 6000 to 15000.

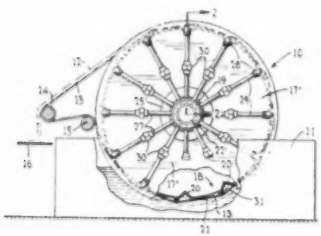
2,461,704 — Adhesive and Coating Composition. Fred B. Speyer, Salem, Mass., assignor to Shellmar Products Corporation, Mount Vernon, Ohio, a corporation of Delaware. Filed Nov. 23, 1945—Issued Feb. 15, 1949.

A pressure sensitive greaseproof adhesive type laminant composition of matter of the following formulation:

	Parts
Polymerized linseed oil	about 5.0
Chlorinated rubber (125 cps.)	about 1.0
Micro crystalline wax	about .5
Ethyl acetate	about 5.0
Toluene	about 1.0

2,461,824—Continuous Rotary Drum Filter. Thomas R. Komline, Glen Rock, N. J., assignor to Komline-Sanderson Engineering Corporation, Ridgewood, N. J. Filed Feb. 10, 1947—Issued Feb. 15, 1949.

In a drum for a continuous rotary vacuum filter of the type wherewith the permeable medium is trained about the exterior surface of the



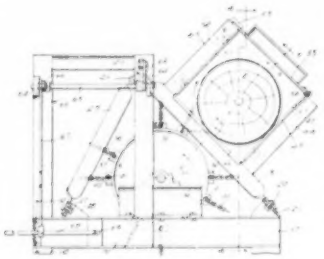
drum, in combination, a pair of spaced drum heads and a barrel portion situated between the drum heads in axial alignment therewith, said barrel portion being an imperforate, substantially cylindrical shell, the external surface of which is divided by spaced, longitudinally arranged compartment sealing strips to provide a series of compartmental divisions, each compartmental division of said shell providing a convex peripheral portion for supporting the permeable medium having a drainage channel disposed longitudinally of the drum axis adjacent said convex portion over which the medium bridges whereby effluent passing through a filter medium may travel circumferentially of the drum under the medium resting on the drum surface to the drainage channel and thence axially of the drum in the drainage channel, said drum heads being each provided with axial rotation supporting trunnions and one of said drum heads being provided with a series of effluent apertures in registration with said drainage channels.

2,461,900—Low Shrinking Cellulosic Repair Putty. Charles W. Johnson East Brunswick Township, Middlesex County, N. J., assignor to E. I. du Pont de Nemours & Co., Wilmington Del. Filed April 6, 1944—Issued Feb. 15, 1949.

A plastic composition prepared by blending without heating and adapted to harden on exposure to air at 70° F. without substantial shrinkage upon the evaporation of solvent which comprises a water-insoluble tough film-forming synthetic organic polymeric binder, a volatile solvent for the binder and a finely divided inert form of cellulose material characterized by an oil absorption of between 50 and 150 uniformly dispersed in the said binder in a proportion between 2.5 and 5.3 parts by weight of inert cellulose material to 1 part of the said organic polymeric binder, the said volatile solvent being present in amount from 29.2% to 50% of the total composition.

2,461,924—Impact Type Log Peeler. Charles J. Robertson, Hattiesburg, Miss. Filed Nov. 27, 1945. Issued Feb. 15, 1949.

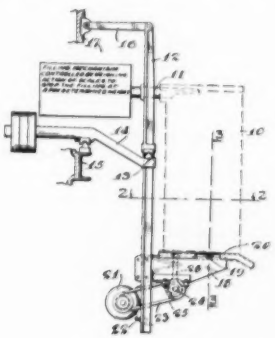
A machine for removing the bark from rotating, horizontally positioned and axially advancing logs comprising a base, a plurality of spaced inverted V-shaped log supporting and log feeding members pivotally connected to said base and located at one side of a log being debarked, each inverted V-shaped member lying in a tilted plane which is intersected by the longitudinal axis of the log and which is tilted about an axis containing said pivotal connection and in the direction of the log advances, one leg of each inverted V-shaped member being engageable with the periphery of said log to axially feed said log, means mounted on said legs to retain the log in contact therewith; a rotatable member mounted on said base and positioned beneath said inverted



V-shaped members and within the angle formed thereby, flexible debarking members mounted on said rotatable member and swingable between said V-shaped members to pound the bark and thereby rotate the log; an elongated member mounted on said base and connecting the apexes of said inverted V-shaped members, and means to move said elongated member in the direction of its longitudinal axis, thereby to vary the tilt of each inverted V-shaped member and consequently to vary the speed at which said log advances while being rotated by impacts from said debarking members.

2,462,286—Bag Packer and Weigher with Jigging Device. Herman S. Rhodes, Birmingham, Ala., assignor to St. Regis Paper Company, New York, N. Y. Filed Aug. 19, 1944—Issued Feb. 22, 1949.

In apparatus for filling and weighing valve bags the combination comprising, weighing scale means, bag support means pivotally mounted upon said scale means for weighing thereby, a filling spout mounted upon said bag support means, means for stopping the flow of material through said spout in response to weighing action of said scale means, a bag bottom support for supporting the bag in position on said spout during filling, means pivotally mounting said bottom support on said bag supporting means along a generally horizontal axis which passes adjacent the center of the bag bottom, the pivot axes of said bag support means and of said bottom support pivotal mounting means being substantial parallel, and means for rapidly oscillating said bottom support about its pivotal mount during



filling and weighing of the bag with oscillations center of gravity of the bag relative to the scale insufficient materially to alter the position of the means and at a frequency too high for the scale means to respond thereto to actuate said means for stopping the material flow.

2,462,030—Oxychloride Cementatory Material. Edward D. F. Whitehead, Chevy Chase, Md., assignor to Whitehead-Craft Corporation, Washington, D. C., a corporation of Delaware. Filed Oct. 20, 1947—Issued Feb. 15, 1949.

A cementatory material having the following percentage composition

	Mole per cent
SiO_2	26 -58.2
MgO	23.3-13.0
Al_2O_3	3.0- 1.7
$CuSO_4.5H_2O$	1.2- 0.7
$MgCl_2.6H_2O$	3.6- 2.0
H_2O	43.5-24.4

2,462,830—Fungicide Comprising 1-Methoxy-4-Chlorobutene-2. Oliver W. Cass, Niagara Falls, N. Y., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Aug. 31, 1946—Issued March 1, 1949.

A fungicidal composition comprising, as a fungicidal agent, 1-methoxy-4-chlorobutene-2 and, as a carrier, a finely divided, inert solid.

2,463,023—Resin-Oil Compositions. Rupert S. Daniels, Union, and William R. Catlow, Jr., Bloomfield, N. J., assignors to Bakelite Corporation, a corporation of New Jersey. Filed Dec. 27, 1941—Issued March 1, 1949.

Composition suitable for coating material comprising a composition of a fatty oil and a fatty oil-soluble organic resin selected from the group consisting of natural resins, their salts, esters and oxidation products, phenol-aldehyde resins, and coumarone resins, said oil and resin composition being in a state of non-extractability in acetone of at least 30% and of dispersibility in hydrocarbon thinner, and incorporated with said oil and resin composition a thermoplastic agent soluble in an aromatic hydrocarbon solvent and selected from the group consisting of water-insoluble cellulose ethers, polymerized esters of methacrylic acid and polymerized vinyl compounds, said agent being present in proportion sufficient to impart resistance to chipping of the composition in floor and stair tread coatings of over 5 mil thickness.

EQUIPMENT

Metal Detector

The metal detector is designed to inspect timber on its way to the saw mill and to locate imbedded metal. Each log is checked as it passes through the coil assembly of the detector. Developed for the U. S. Corps of Engineers for the inspection of timber felled near

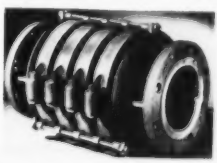
the former firing range of the military reservation, the unit is said to have general application for detecting bits of metal which might cause serious damage were they to come in contact with the saw. For details and prices write to Apparatus News Bureau, General Electric Co., Schenectady 5, N. Y.

Grip-Tight Hose Bands

Grip-Tight hose bands are designed to make neat, tight hose connections without a bench or vise. Made of special rust-proof galvanized steel wire for all sizes of hose from one-quarter inch to 6 ins. O.D., only one size band being needed for each size of hose. Also available in corrosion-resistant brass wire with marked application for pulp and paper mills. For details and prices write to Erco Manufacturing Co., 2368 North Elston avenue, Chicago 14, Ill.

Packless Expansion Joint

Corruflex packless expansion joint is introduced to the market as an addition to the manufacturer's line of slip joints and diaphragm types of packless joints designed to absorb expansion and contraction due to temperature



changes in steam, liquid and gas pipe lines. Available in sizes from 3 to 24 ins., single or multiple corrugation, with or without self-equalizing rings, single or double units, and with either flanged or welding ends. It is supplied in copper, stainless steel or other alloys, and with internal sleeves if required. Traverse of the Corruflex joint ranges from fractions of an inch to 15 ins., and will operate under pressures from vacuum to 300 lbs., and temperatures from sub-zero to 1600°F., the manufacturer states. Designed for use in trenches, tunnels or other cramped quarters. For details and prices write to American District Steam Co., North Tonawanda, N. Y.

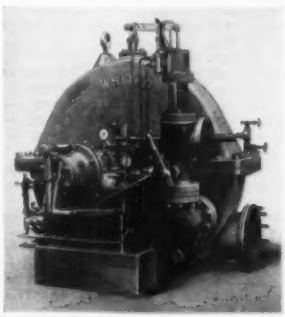
Chlorinizer

The Chlorinizer is described as a gas feeding unit designed to meter chlorine gas and produce chlorine water solutions. Adapted to semi-automatic, program, or automatic proportional operation, it is stated, and conversion from

one method of operation to any other may be made in the field. Features a positive chlorine rate indicator with direct reading linear scale. For details and prices write to Builders-Providence, Inc., Providence 1, R. I.

Horizontal Turbine

The horizontal turbine was designed to develop 500 h.hp. at 1750 r.p.m. with 850 to 900 lb. initial pressure, 850°F., and to exhaust into a vacuum of 12 ins. or against 2 p.s.i.g. back pressure. Casing is supported near the centerline on



pedestals. To meet operating requirements, special materials are used throughout. Turbine rotor is a solid one-piece wheel 48 ins. in diameter, blades being milled around periphery of a solid steel forging. Turbine is equipped with an oil relay actuated constant speed governor, separate emergency governor of poppet type, gear-driven oil pump to supply governor and turbine bearings, external oil cooler, automatic back pressure trip and standard accessories. For details and prices write to Whiton Machine Co., New London, Conn.

LITERATURE

National Planning Assn., 800 21st street, N.W., Washington 6, D.C. Book, "Why Industry Moves South." (169 pp., $3) third report by NPA of the South. Composed of more than 50 leaders in the South's agriculture, business, education, finance, government, industry, labor, press and radio, the committee here presents reasons why the nation's major industries located 88 postwar plants in the South. Prepared under the guidance of an Industrial Subcommittee by Dr. Glenn McLaughlin, chief economist of the National Security Resources Board, and by Dr. Stefan Robock, Antitrust Div., Dept. of Justice, Boston, Mass.

National Assn. of Manufacturers, 14 West 49th street, New York 20, N. Y. Booklet, "Employee Communications for Better Understanding." Explores some of the fundamental aspects of current problems, and presents a program for industry for learning what employees want.

National Institute of Real Estate Brokers, 22 West Monroe street, Chicago 3, Ill. "Membership roster for 1949." Lists leading specialists in North American real estate alphabetically by cities within the states, and identifies each with firm or organization with which he is associated.

Texas Co., 135 East 42nd street, New York 17, N. Y. Booklet, "Lubrication" Vol. 35, No. 7, July 7. Features "Lubricating the Modern Paper Machine" with instruction copy, photographs and cutaway drawings.

Turner Construction Co., 420 Lexington avenue, New York, N. Y. Leaflet, "Turner City"—1948, July 1949 issue.

Trumbull Electric Mfg. Co., Plainville, Conn. Circular TEC-317A, "TT Manual Starter—Thermostatic Tumbler Switches." Contains dimensional data and suggested specifications for contractors and users.

The Brookings Institution, Washington 6, D.C. Book, "Controlling Factors in Economic Development" by Harold G. Moulton, (397 pp. $4.00). In Part I, "Looking Backward," appraises the forces and factors which accounted for economic progress of the nineteenth and early twentieth centuries, as well as sources of maladjustment which restrained rate of advancement. Part II indicates the economic potentialities of the century ahead and outlines policies essential to their realization.

Office of Information, Economic Cooperation Administration, Washington 25, D. C. Booklet, "Information for American Businessmen on the Marshall Plan." Provides names and addresses of foreign government purchasing missions, U. S. Govt. Purchasing Agencies which have on occasion purchased on behalf of ECA, and charts on "How ECA Renders Aid."

Supt. of Documents, Govt. Printing Office, Washington 25, D.C. "Small Business Packet," Catalog No. SB-48, price $1.00. Contains "Small Business and Government Regulations"; "Small Business and Regulation of Pricing Practices"; "The Small Businessman and His Bank"; "Small Business and Government Licenses"; "Small Business and Trade Marks"; "The Small Businessman and Sources of Loans"; "The Small Businessman and His Financial Statements"; "Guides for New World Traders."

PRICES

The prices below reflect general market quotations applying to those standard grades in which the normal volume of business is being done.

NEW YORK

Delivered New York

Standard News, per ton—

Rolls, contract	$100.00/	—
Sheets	115.00/	—

F.o.b. Mill, Varying Freight Allowances

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$6.25/$6.75
No. 1 Wrapping Rolls	7.00/ 7.50
Standard Bag	5.75/ 6.25

Tissues— per ream 24x36 (480) 10/11 lbs. 2500 lbs. or more

Wh. No. 1 Frd.	$160.00/ —
Wh. No. 1 M. G.	150.00/ —
Wh. No. 1½	150.00/ —
Wh. No. 2	1.17½/ 1.20
Kraft Anti-Tar	1.45 / 1.50
Shrd. Wh. No. 1 per lb.	.11½/ —

Toilet— per case of 100 rolls—1 M sheets.

Unbleached 4½x4½	$5.75/ —
Bleached 4½x4½	6.95/ —
Bleached 4½x5	8.80/ —
Per Case of 50 rolls—2000 sheets	
Unbleached 4½x4½	$5.75/ —
Bleached 4½x4½	6.80/ —
Per Case of 100 rolls—1000 sheets	
Facial, 4½ x 5, 2 ply	$8.95/$9.45

Paper Towels—per case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$5.25
Br. Sr. M'tif'd 10x12	3.60
Br. Jr. M'tif'd 9½x9¼	3.10
Br. Jr. Sgl. fold 10x10¾	3.15
Blchd. 7½ x 11, 24/25 rolls	$3.95/$6.25

Manila, per cwt.

No. 1 Jute Tag 40 lb., sheets*	$15.05/$17.50
Reg. Jute M.F. Manila, sheets*	13.50/ 15.50
Wrapping Manila	8.75/ 10.50
Printing Manila	10.00/ 11.00

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$65.00/$67.50
Plain Chip	65.00/ —
Blchd. Mla. L-d. Chip*	92.50/ —
White Pat. coated*	110.00/
Kraft Liners 42 lb.	100.00/
Kraft Corr. .009	105.00/
Binders Boards	110.00/116.00

* Base Prices per 10 tons. Less than 10 ton but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

WORLD WOOD PULP MARKETS

Third Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowances		On dock Atlantic Ports Full freight allowance		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$65.00/ —	$65.00/ —			
Soda, Bleached	113.00/ —	113.00/ —		Competitive	
Sulphate, Bleached	118.00/126.00	126.50/ —	125.00/128.00		
Sulphate, Unbl'd North'n	— / —	82.50/105.00	94.00/ —	with	
Sulphate, Unbl'd South'n	80.00/ —				
Sulphite Blchd. (S'ftw'd)	118.00/ —	118.00/ —	118.00/ —	Domestic	Competitive
Sulphite, Blchd. (H'dw'd)	113.00/ —				
Sulphite, Unbleached	100.00/ —	100.00/ —	100.00/ —	Grades	
Sulphite, Unbl'd (Glassine)	105.00/ —	105.00/ —	104.00/105.00		

WASTE PAPER MARKET

Prices to Mills. Quotations Nominal
F.O.B. Shipping Point (Per Ton)

	New York	Philadelphia	Boston	Chicago
	Aug. 5	July 12	Aug. 5	Aug. 3
No. 1 Mixed Paper	$2.00/ $3.00	$3.00/ $4.00	$5.00/ —	$5.00/ —
Boxboard Cuts	2.00/ 3.00	2.00/ 3.00	— / 5.00	8.00/ —
Mill Wrappers	8.00/ 10.00	8.00/ 10.00	— / 9.00	7.00/ —
No. 1 News	7.00/ 8.00	5.00/ 7.00	8.00/ 9.00	11.00/ —
Over-issue News	15.00/ 16.00	9.00/ 11.00	8.00/ 10.50	14.00/ —
Corrugated Containers	9.00/ 11.00	10.00/ 11.00	11.00/ 13.50	15.00/ —
New Corrugated Cuts	13.00/ 15.00	18.00/ 20.00	16.00/ —	19.00/ —
Double Kraft Ld. Corr. Cuts	30.00/ —	25.00/ 30.00	25.00/ —	30.00/ —
Used Kraft Bags	25.00/ —	15.00/ 17.00	25.00/ 30.00	20.00/ —
No. 1 Brown Kraft Paper	25.00/ —	21.00/ —	25.00/ —	15.00/ —
Super Resorted Br. Kraft	25.00/ 30.00	30.00/ —	40.00/ —	30.00/ —
New Br. Kraft Env. Cuts	55.00/ 60.00	60.00/ 65.00	60.00/ 65.00	50.00/ —
New Br. Kraft Cuts	25.00/ 30.00	55.00/ —	45.00/ —	45.00/ —
No. 1 Gdwd. Shvs.	15.00/ 20.00	12.00/ 15.00	25.00/ —	21.00/ —
White Newsblanks	45.00/ 50.00	30.00/ —	— / 50.00	30.00/ —
No. 1 Flyleaf Shvs.	25.00/ 30.00	15.00/ 17.00	35.00/ 45.00	30.00/ —
No. 1 Soft Wht. Shvs.	65.00/ 70.00	55.00/ 60.00	70.00/ 80.00	55.00/ —
Super Soft Wht. Shvs.	85.00/ 90.00	60.00/ 65.00	80.00/ 90.00	60.00/ —
Hd. Wht. Shvs.	80.00/ 90.00	70.00/ 75.00	80.00/ 90.00	80.00/ —
Hd. Wht. Env. Cuts.	95.00/100.00	90.00/ 95.00	90.00/105.00	90.00/ —
New Manila Env. Cuts.	60.00/ 70.00	60.00/ —	60.00/ 70.00	55.00/ —
Col. Tab Cards	25.00/ 30.00	20.00/ 25.00	35.00/ —	30.00/ —
Manila Tab Cards	60.00/ 65.00	60.00/ 65.00	65.00/ 75.00	50.00/ —
No. 1 Mixed Ledger	27.50/ 30.00	20.00/ 25.00	37.50/ —	30.00/ —
White Ledger	35.00/ 40.00	30.00/ 35.00	45.00/ 50.00	40.00/ —
Mixed Books & Mags.	7.00/ 8.00	4.00/ 5.00	12.00/ —	7.00/ —
No. 1 Rep'd Hvy. Books & Mags.	15.00/ 17.00	8.00/ 10.00	22.00/ 23.00	20.00/ —

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—

White, 20 lb.

Bonds

	4 Ctns.
	per cwt.
100% Rag Ex. No. 1	$51.40/$53.90
100% Rag	44.55/ 46.15
75% Rag	33.90/ 35.40
50% Rag	28.10/ 29.55
25% Rag	24.85/ 26.80

Ledgers

	4 Ctns.
	per cwt.
100% Rag Ex. No. 1	$52.65/$54.55
100% Rag	45.65/ 46.40
75% Rag	35.15/ 36.10
50% Rag	29.40/ 30.05
25% Rag	26.15/ 26.80

Sulphite Bonds and Ledgers

White, 20 lb.

Bonds

	4 Ctns.
	per cwt.
No. 1	$17.50/ —
No. 2	16.65/ 16.75
No. 4	15.60/ 15.95

Ledgers

	4 Ctns.
	per cwt.
No. 1	$18.80/ —
No. 2	18.05/ —

White Book

Conversion Coated	Case
	per cwt.
No. 1	$19.75/$20.90
No. 2	19.25/ 19.65
No. 3	17.75/ 18.90
Machine Coated	
No. 1	16.40/ 16.65
No. 2	14.90/ 15.15
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	15.15/ 16.65
A Grade E. F.	15.40/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)

Coarse Polished—India	.35½/ .36½
Fine Polished India	.41½/ .45
Unpolished—Paper Makers	.32½/ .34½
Tube Rope	.33¼/ .35¼
Wrapping	.36 / .38¼
Cotton	.58 / .60
Polished Cotton	.35 / —
(Hard Fiber)	
Mex. Sisal	.21 / .27
(American Hemp)	
Polished Hemp	.45 / .48
Unpolished	.35 / .37½

Rag Market

New Domestic Cotton Cuttings

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
White Shirt	$10.00/ $10.50
Unbleached Muslin	10.00/ 10.50
Light Silesias	7.00/ 7.50
White Back Blue Overalls	6.25/ 6.50
Blue Overalls	6.00/ 6.25
Fancy Shirt	4.50/ 5.00
Percales	5.50/ 6.00
Light Prints	5.50/ 6.00
No. 1 Washables	2.75/ 3.00
Bleachable Kbaki	5.00/ 5.50
Unbleachable Khaki	4.50/ 5.00
Cottonades	4.25/ 4.75
Lt. Flannelettes	7.00/ 7.50
Men's Corduroy	3.50/ 4.00
Women's Corduroy	3.00/ 3.50

Old Domestic Cotton Rags

(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.
No. 1 Whites, Repacked	$4.25/ $4.75
No. 1 Whites, Miscellaneous	3.50/ 4.00
No. 2 Whites, Repacked	2.75/ 3.00

No. 2 Whites, Miscellaneous	2.00/	2.25
Cotton Pants & Overalls	2.50/	2.75
Thirds and Blues, Repacked	2.00/	2.25
No. 1 Roofing Rags	1.25/	1.35
No. 2 Roofing Rags	1.00/	1.20
No. 3 Jute Bagging	**.95/**	**1.05**
No. 4 Brussels & hrd. Bck'd crpts.	**.90/**	**1.00**
Roofing Bagging	**.80/**	**.95**

New Foreign Cotton Cuttings
(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
New Dark Cuttings	
New Mixed Cuttings	
Light Silesias	prices
Light Flannelettes	
New White Cuttings	are
New Unbleached Cuttings	
Fancy Shirt Cuttings	nominal
Light Prints	
Bleachable Khaki, No. 1	
Unbl. Khaki, No. 1	

Old Foreign Rags
(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
No. 1 White Cottons	
No. 2 White Cottons	
No. 3 White Cottons	
No. 4 White Cottons	prices
Extra Light Prints	
Old Light Prints	
Med. Light Prints	are
Dutch Blue Cottons	
Checks and Blues	
Linsey Garments	nominal
Dark Cottons, European	
Dark Cottons, Egyptian	
Old Shopperies	
New Shopperies	

Bagging
(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.
Foreign Gunny, No. 1	**$7.50/ $8.00**
Domestic Gunny, No. 1	7.50/ 8.00
Heavy Wool Tares	6.50/ 7.00
No. 1 Scrap Bagging	**4.75/ 5.00**
Foreign Manila Rope	**5.50/ 5.75**
Domestic Manila Rope	**5.50/ 5.75**
Jute Strings	**6.25/ 6.50**
No. Sisal Strings	5.00/ 5.25
Mixed Strings	**1.15/ 1.30**

PHILADELPHIA

Domestic Rags (new)
(F.o.b. Eastern Shipping Point)

	Per 100 lbs.
White Shirt	**$10.25/$10.50**
Fancy Shirts	5.00/ 5.25
Light Silesias	**6.75/ 7.00**
Unbleached Muslin	**10.00/ 10.25**
Light Prints	**5.25/ 5.50**
Washable No. 1	2.75/ 3.25
Blue Overall	**6.00/ 6.25**
Percales	**5.50/ 5.75**
Unbleachable Khaki	3.50/ 4.00
Bleachable Khaki	4.50/ 5.00
Men's Corduroy	3.75/ 4.25
Ladies' Corduroy	3.25/ 3.75
Cottonades	3.75/ 4.00

Domestic Rags (old)
(F.o.b. Eastern Shipping Point)

	Per 100 lbs.
Mixed White	$3.00/ $3.50
Thirds and Blues Repacked	2.25/ 2.50
Cotton Pants & Overalls	2.25/ 2.50
No. 1 Roofing Stock	1.00/ 1.10
No. 2 Roofing Stock	.90/ 1.00
Roofing Bagging	.80/ .90

Bagging
(F.o.b. Eastern Shipping Point)

	Per 100 lbs.
Old Manila Rope	$5.00/ —
Foreign Gunny No. 1	7.50/ 8.00
Domestic Gunny No. 1	7.50/ 8.00
Sisal Strings No. 1	3.00/ 3.50
No. 1 Scrap	4.00/ 4.50
No. 1 Jute Rope	5.50/ 6.00

BOSTON

Bagging
(F.o.b. Boston)

	Per 100 lbs.
Foreign Gunny	$7.50 /$8.00
Domestic Gunny	7.50 / 8.00
Domestic No. 1 Old Rope	6.00 / 6.25
Foreign No. 1 Old Rope	**6.50 / —**
Mixed Strings	1.35 / —
Transmission Rope—Domestic	3.00 / 3.50
Jute Carpet Threads	— / 4.00
Bleachery Burlap	— / 9.00
Scrap Burlap—	
Foreign	— / 5.75
Domestic	— / 5.75
South America	6.00 / 6.50
Austr. Wool Pouches	8.25 / —
New Zealand Wool Pouches	— / 6.00
New Burlap Cuttings	7.50 / 8.00
Heavy Baling Bagging	7.50 / 8.00
Paper Mill Bagging	— / 5.00

Domestic Rags (new)
(F.o.b. Boston)

	Per 100 lbs.
New Light Prints	5.75 / 6.00
Fancy Percales	6.25 / 6.50
White No. 1 Shirt	10.00 /10.75
Light Flannelettes	— / 7.00
Canton Flannels, Bleached	— / 9.00
Underwear Cutters, Bleached	10.75 /11.25
Underwear Cutters, Unbleached	10.00 /10.25
Blue Overalls	6.00 / 6.50
Soft Unbleached	9.75 /10.50
Blue Cheviots	6.00 / 6.50
Fancy Shirt	4.00 / 4.50
Washable	3.00 / 3.25
Khaki Cuttings	**5.00 / 5.25**
Men's Corduroy	4.50 / 5.00
Khaki Canvas	— / 5.50
B. V. D. Cuttings	**10.00 /10.25**

Domestic Rags (old)
(F.o.b. Boston)

	Per 100 lbs.
No. 1 Whites, Repacked	3.00 / 3.50
No. 1 Whites, Miscellaneous	2.50 / 3.00
Twos and Blues, Repacked	— / 2.00
Cotton Pants & Overalls	2.50 / 2.75
No. 1 Roofing Stock	.95 / 1.10
No. 2 Roofing Stock	.85 / 1.00
Roofing Bagging	.75 / .80

MATERIALS

Blanc Fixe

Prices firm. Demand moderate. Supply adequate. Currently quoted at $85.00 in bags, car lots, at works, 6 cents per pound, l.c.l., deld. By-product supply somewhat restricted. Quoted at $77.50 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Prices steady. Demand easy. Prices range from $4.25 to $4.75 per 100 pound drums, l.c.l., works.

Casein

Domestic production cut by weather conditions and Govt. purchases of milk. Ample supply in Argentine. Trading dull. Current prices on processed acid precipitated grades .20½ to .21, premium grades .21½ to .22; imported grades .19/.20, f.o.b. shipping point, car lots.

Caustic Soda

Prices firm. Supplies available for prompt shipment. L.c.l. sales reported at competitive levels. Solid caustic is reported at $3.05 per cwt. flaked and ground is quoted at $3.45 per cwt., in 400 pound drums, $3.95 per cwt. in 100 pound drums—car lots at works; liquid 50 percent in tank cars at $2.40 per cwt.; liquid 73 per cent in tank cars at $2.50 per cwt., at works.

China Clay

Prices firm. Demand easier, supply of domestic and imported ample. Domestic filler quoted at $10 to $12.50 per ton, car lots, f.o.b. mines. Coating clay is $15 to $25. Imported clay quotation, short tons, $16 to $35, export warehouse.

Chlorine

Supply condition tightened by seasonal water requirements. Prices firm. Currently quoted at $2.40 per cwt. in single unit tank cars; at $2.70 to $3.90 per cwt. in multi-tank cars, f.o.b., works.

Rosin

No offerings on open market. Trading dull. Gum rosin in drums per 100 pounds net in car lots, f.o.b. Savannah, B, $5.75; G, $6.42; H, I, K, $6.44; wood rosin, per 100 lbs., car lots f.o.b. Savannah; B, $4.25; FF, $5.50.

Rosin Size

Supply good. Demand steady. Seventy percent gum and pale wood grades, tank cars, $5.45 to $5.55 f.o.b. southern shipping point.

Salt Cake

Demand fair. Domestic quoted at $22.00/$24.00, f.o.b. shipping point, freight allowed to destination.

Soda Ash

In free supply. Demand easier. Prices firm. Current prices, car lots per 100 pounds; in bulk, $1.15; in paper bags, $1.40; and in barrels, $1.90.

Starch, Corn

Prices steady at new level. Demand fair. Supply ample. Pearl grade currently quoted at $4.92 per 100 pounds; powdered starch at $5.03 per 100 pounds; car lots, f.o.b. Chicago.

Starch, Potato

Market firm. Prices stronger. Moderate paper demand. Idaho quantities limited to warehouse. High grade quoted at $7.00 cwt., l.c.l., ex N. Y. whse. Supply tight. Ample Maine supply quoted $4.88, f.o.b. Maine warehouse; pearl grade, $4.73 cwt., f.o.b. Maine.

Sulphate of Alumina

Prices firm Supply good. Demand steady. The commercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.50 per 100 pounds in bags, car lots, at works.

Sulphur

Prices firm. Demand sustained at good level. Supply good. Annual contracts are quoted at $18 per long ton, f.o.b. mines; $19.50, f.o.b. vessels, Gulf ports. Export price f.o.b. Gulf ports is $22.00 per long ton.

Talc

Prices steady. Demand continues ahead of supply. Domestic grades are currently quoted at $23 per ton in paper sacks, f.o.b. mills; Canadian at $35 and up per ton. All prices in car lots.

Tapioca Flour

New supplies arriving. Superior high range from $9.85 to $11.00 cwt.; high grades $8.60/$9.50 cwt., on dock Atlantic and Gulf ports; medium grades range from $8.25/— cwt. on dock, N. Y.

Titanium Dioxide

Prices firm. Supply reported now in balance with eased demand. Anastase 19½c pound carload lots, 20c l.c.l., rutile, 21½c pound carload lots, 22½c l.c.l.; 50-pound bags, f.o.b. plant, actual freight allowed.

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FINANCIAL RECORD

PREFERRED STOCKS	Per Share Earnings Calendar Year 1948	Per Share Earnings 12 Mo. to Approx. 3/31/49	Indic. Annual Divid. Rate	Aug. 9 Approx. Market Price
Armstrong Cork Co. $3.75 Cum.	$46.33*	n.a. *	$3.75	99¾
Armstrong Cork Co. $4.00 Cum. Conv.	46.33*	n.a. *	4.00	109¾
Celotex Corp. 5% Cum.	26.42c	$15.31i	1.00	16⅝
Champion Paper & Fibre $4.50 Cum.	61.80j	99.97f	4.50	96½
Container Corp. of Amer. 4% Cum.	105.41	99.87a	4.00	99½
Crown Zellerbach $4.20 Cum.	59.10c	61.84i	4.20	100⅜
Crown Zellerbach $4.00 Cum. Conv. 2nd	55.88c*	58.59i *	4.00	95
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.10	10.04a	2.50	50¼
Flintkote Co. $4 Cum.	83.25	66.07a	4.00	101⅜
Robert Gair Co., Inc. 6% Cum.	17.08	13.73a	1.20	17⅛
International Paper Co. $4 Cum.	263.00	265.18	4.00	100
Johns-Manville $3.50 Cum.	209.89	212.03a	3.50	107⅝
Kimberly Clark Corp. 4½% Cum.	80.74	74.36a	4.50	103½
Kimberly Clark Corp. 4% Cum. Conv. 2nd	41.59*	44.25*a	4.00	94½
MacAndrews & Forbes 6% Cum.	62.23	60.44	6.00	133
Mead Corp. 4¼% Cum.	73.46	68.78k	4.25	81½
Mead Corp. 4% Cum. Conv. 2nd	29.91*	24.30k	2.00	33⅜
Paraffine Cos. Inc. 4% Cum. Conv.	156.11	158.51	4.00	103
Rayonier Inc. $2 Cum.	16.43	13.99a	2.00	30¾
St. Regis Paper Co. 4.40% 1st A	79.90	51.11a	4.40	80¼
Scott Paper Co. $3.40 Cum.	59.06	55.14*a	3.40	104¾
U. S. Gypsum Co. 7% Cum.	314.45	314.18	7.00	182½
United Wallpaper Inc. 4% Cum. Conv.	(d)0.79	15.44	2.00	24
West Virginia Pulp & Paper 4½% Cum.	79.45c	77.54i	4.50	108¼
COMMON STOCKS				
APW Products Co.	$0.73	(d)$0.56a	(m)	2½
American Writing Paper Corp.	(d)0.15	(d)0.15	0.25	5¾
Armstrong Cork Co.	7.54	n.a.	3.00	45¾
Celotex Corp.	7.21c	4.06i	1.00	16½
Certain-Teed Prods. Corp.	4.02	3.21a	1.00	11⅞
Champion Paper & Fibre	5.34j	8.70f	2.00	24⅜
Congoleum Nairn Co.	5.78	4.92a	2.25	27⅜
Container Corp. of America	10.12	9.52a	4.50	35⅞
Crown Zellerbach	6.70e	6.85i	2.00	26⅛
Dixie Cup Co.	6.70	6.65a	1.00	28⅝
Eastern Corp.	4.76	3.10	(h)	8¼
Flintkote Co.	5.86	4.20a	2.50	27¼
Robert Gair Co., Inc.	2.67	2.10a	0.70	6⅛
Great Northern Paper Co.	4.63	5.12	2.80	36⅝
International Paper Co.	16.73	16.87	5.00	52¾
Johns-Manville Corp.	5.22	5.27a	2.00	39⅛
Kimberly Clark Corp.	5.02	4.55a	1.65	21⅛
MacAndrews & Forbes Co.	3.68	3.56	2.50	34½
Marathon Corp.	4.11c	3.76i	1.40	22⅝
Mead Corp.	6.36	5.84k	1.00	12¾
National Container Corp.	2.28	1.80	0.40	6⅛
Paraffine Cos. Inc.	2.45	2.49	1.20	18⅛
Rayonier, Inc.	9.09	7.55a	2.00	24⅜
Ruberoid Co.	11.80	9.48a	3.25	48⅛
St. Regis Paper Co.	2.71	1.64a	0.60	6⅞
Scott Paper Co.	4.15	5.02a	2.50	57½
Sutherland Paper Co.	6.02	4.92a	2.50	32½
Union Bag & Paper Corp.	9.17	6.50a	3.50	24
United Board & Carton	2.04b	(d)0.35i	(e)	5⅝
U. S. Gypsum Co.	15.04	15.03	6.00	102¼
United Wallpaper	(d)0.10	0.42	(n)	3⅝
West Virginia Pulp & Paper	11.33e	10.93i	4.00	40⅛

(a) 12 months to approximately 6/30/49
(b) Year ended 11/23/48
(c) Year ended 10/31/48
(d) Deficit
(e) Omitted dividend 2/4/49
(f) 11 months to 3/31/49
(g) 12 months to approximately 1/31/49
(h) Directors took no action on 8/2/49 dividend—last payment 5/2/49
(i) 12 months to approximately 4/30/49
(j) 8 months to 12/31/48
(k) 12 months to approximately June 12, 1949
(m) Directors took no action on July, 1949, dividend—last payment 1/10/49
(n) Last payment 25c, 9/16/47
n.a. Not available
(*) Earnings per combined preferred shares.

Dividends Declared

Marathon Corp. on July 29 declared quarterly dividends on its common and preferred stock. The common stock dividend of 35 cents a share is payable August 31 to holders of record August 10. The preferred stock dividend of $1.25 a share is payable October 1, 1949, to holders of record September 20. Amounts of both dividends are net after provision for Wisconsin privilege dividend tax.

Armstrong Cork Co. has declared a dividend of 40 cents per share on its common stock, payable September 1 to holders of record August 8. Also a dividend of 93¾ cents per share on the $3.75 cumulative preferred stock, payable September 15 to holders of record September 1. Likewise, a dividend of $1 per share on its $4 cumulative preferred stock, payable September 15 to holders of record September 1.

E. B. Eddy Paper Co., Ltd., has declared a quarterly dividend of 25 cents per share, payable September 15 to holders of record August 16.

Hammermill Paper Co. has declared the regular quarterly dividend of $1.125 per share on its 4½ percent cumulative preferred stock and $1.0625 per share on its 4¼ percent cumulative preferred stock, both payable October 1 to stockholders of record September 10. Also a dividend of 25 cents per share on the common stock, payable September 10 to holders of record August 20.

MacLaren Power & Paper Co., Ltd., has declared a dividend of 50 cents, payable August 31 to holders of record August 6.

Great Lakes Paper Co., Ltd., has declared a dividend of 62½ cents per share on its "A" preferred stock and 25 cents on its common stock, payable September 30 to holders of record September 15.

Scott's Texas Charter Amended

AUSTIN, Texas — The Scott Paper Co. of Pennsylvania amended its Texas charter on July 23, establishing 45,000 shares out of the authorized and unissued cumulative preferred shares to be designated $4 cumulative preferred shares.

IMPORTS

IMPORTS AT NEW YORK

Week Ending Aug. 6

Newsprint

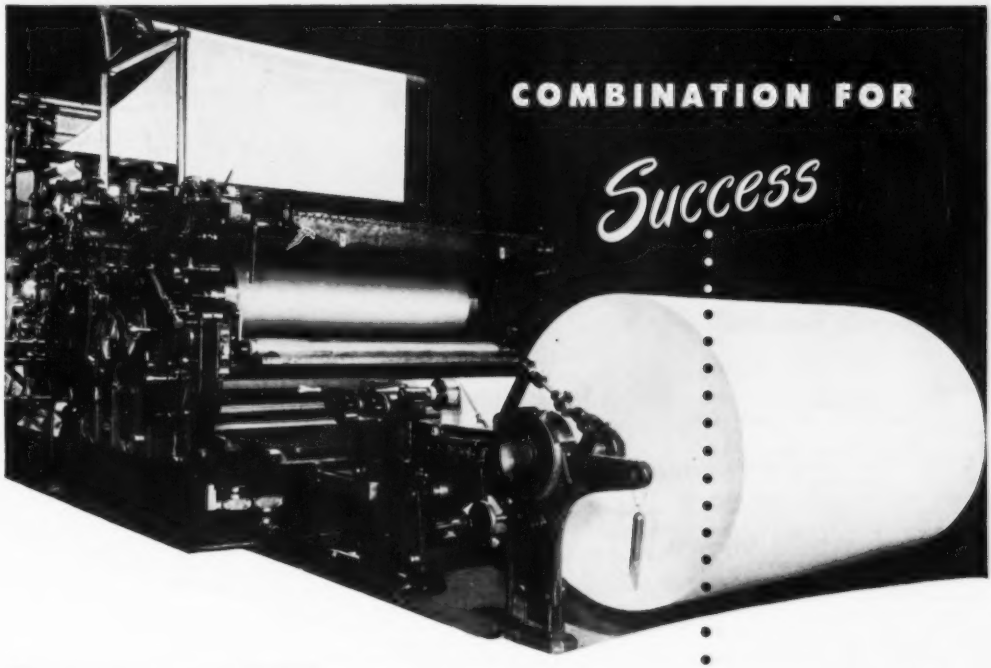
R. A. Olsen Inc., G.D.D., Donnacona, 381 rolls.
Gilman Paper Co., Tudor Prince, Cornerbrook, 70 rolls.
Wall Street Journal, Tudor Prince, Cornerbrook, 188 rolls.
N. Y. World Telegram, Tudor Prince, Cornerbrook, 916 rolls.
Hearst Enterprises, Inc., Tudor Prince, Cornerbrook, 696 rolls.
N. Y. Times Co., Tudor Prince, Cornerbrook, 769 rolls.
R. A. Olsen Inc., Donpaco, Donnacona, 351 rolls.
H. C. Craig Co., Newscarrier, Donnacona, 388 rolls.
N. Y. Journal American, Markland, Liverpool, N.S., 361 rolls.
N. Y. Herald Tribune, Markland, Liverpool, N.S., 1764 rolls.
N. Y. World Telegram, Markland, Liverpool, N.S., 710 rolls.
Brooklyn Eagle, Inc., Markland, Liverpool, N.S., 704 rolls.
Brooklyn Eagle Press, Markland, Liverpool, N.S., 53 rolls.
Richmond Newspapers Inc., (Richmond, Va.), Markland, Liverpool, N.S., 1576 rolls.
Pepper Printing Co., (Richmond, Va.), Markland, Liverpool, N.S., 71 rolls.

Wallpaper

W.H.S. Lloyd & Co., Marine Flasher, Southampton, 1 cs. (samples).
Lieberman & Waelchli, Tarifa, Kobe, 3 cs.

Paperhangings

R. E. Thibout, Parthia, Liverpool, 5 bls.
American Express Co., Ile de France, Havre, 32 pkgs.



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Rice Paper

Damascus Art Flowers, Tarifa, Keelung, 15 cs.

Filter Paper

S. H. Pomerance, Marine Flasher, Southampton, 1 cs.

Gummed Paper

B. F. Drakenfeld & Co., Inc., Parthia, Liverpool, 6 cs.

Tissue Paper

B. F. Drakenfeld & Co., Inc., Parthia, Liverpool, 23 cs. (gauze carbonizing).

Tracing Cloth

E. Dietzgen & Co., American Manufacturer, Manchester, 13 cs. (bleached cotton).

Keuffel & Esser Co., American Manufacturer, Manchester, 33 cs. (bleached cotton).

E. Dietzgen & Co., Parthia, Liverpool, 11 cs. (bleached cotton).

Napkins

H. W. Robinson & Co., Parthia, Liverpool, 20 cs.

Freund Mayer, Mormacport, Copenhagen, 124 cs.

H. W. Robinson & Co., American Manufacturer, Liverpool, 29 cs.

Serviettes

(———), Parthia, Liverpool, 11 pkgs. (crepe paper).

Surface Coated Paper

Gevaert Co. of America, Edam, Antwerp, 18 cs.

Writing Paper

American Express Co., Ile de France, Havre, 1 cs.

H. W. Robinson & Co., American Manufacturer, Liverpool, 2 cs.

Cardboard Wallpockets

J. Schmidt Inc., American Defender, Amsterdam, 21 cs.

Photo Paper

Kaufman & Winsor, De Grasse, Havre, 1 cs.

Rags, Baggings, etc.

J. J. Rozendaal, Topeka, Antwerp, 62 bls. cotton waste.

J. J. Rozendaal, Indochinois, Dunkirk, 129 bls. cotton waste.

A. de Vries Trading Corp., Molda, Rouen, 73 bls. rags.

American Express Co., Parthia, Liverpool, 79 bls. new wool rags.

American Express Co., Parthia, Liverpool, 79 bls. new wool rags.

W. Barnet & Son Inc., Parthia, Liverpool, 17 bls. paperstock.

Chase National Bank, Parthia, Liverpool, 165 bls. new hosiery clips, 50 bls. wool rags.

(———), Parthia, Liverpool, 199 bls. new wool rags, 28 bls. wool thread waste, 32 bls. old wool rags.

State Street Trust Co., Examiner, Venice, 113 bls. old jute rags.

E. J. Keller Co., Inc., Hermando, Antwerp, 59 bls. old bagging.

Loumar Textile By Products Inc., Hermando, Antwerp, 64 bls. old bagging.

J. J. Rozendaal, Hermando, Antwerp, 84 bls. cotton waste.

(———), Hermando, Antwerp, 75 bls. bagging, 76 bls. flaxwaste.

C. Kutz, Mathilda Thorden, Leningrad, 1235 bls. cotton waste.

Old Rope

E. J. Keller Co., Inc., Mathilda Thorden, Gothenburg, 129 coils manila rope.

Casein

F. H. Paul & Stein Bros., Indochinois, Havre, 373 bags.

INPORTS AT BOSTON

Week Ending Aug. 6

American Express Co., Topeka, Antwerp, 8 bls. threadwaste, 14 bls. wool clips.

Rockland Atlas National Bank, Edam, Rotterdam, 23 bls. rags.

(———), Edam, Rotterdam, 19 bls. rags, 462 bls. old hide pickers.

S. W. Miller, Edam, Rotterdam, 1 ble. rags.

I. M. Soben, Horda, Buenos Aires, 160 bags lactic casein.

F. H. Paul & Stein Bros., Mormacpenn, Buenos Aires, 200 bags lactic casein.

IMPORTS AT PHILADELPHIA

Week Ending Aug. 6

Schwartz & Co., Hermando, Antwerp, 1 cs. packing paper.

Gottesman & Co., Vretaholm, 900 bls. bleach sulphite.

IMPORTS AT BALTIMORE

Week Ending Aug. 6

Ayres W. C. Jones Co., Molda, Rouen, 126 bls. cotton waste.

Gottesman & Co., Vretaholm, 500 bls. bleached kraft.

IMPORTS AT NORFOLK

Week Ending Aug. 6

Chemical Bank Trust Co., Topeka, Rotterdam, 63 bls. bagging rags.

A. de Vries Trading Corp., Topeka, Antwerp, 104 bls. old bagging.

Ayres W. C. Jones Co., Molda, Rouen, 74 bls. cotton waste.

Leigh Textile Co., Molda, Havre, 46 bls. rags.

E. Butterworth & Co., American Manufacturer, Manchester, 76 bls. old bagging.

Loumar Textile By Products Inc., American Manufacturer, Manchester, 73 bls. old bagging.

E. J. Keller Co., Inc., Hermando, Antwerp, 61 bls. old bagging waste, 380 bls. jute waste.

(———), Hermando, Antwerp, 99 bls. old bagging.

MEETINGS

ASSOCIATION EXECUTIVES: Please send us your meeting dates and locations for this column as far in advance as possible. No charge for publication.

SEPTEMBER 6-9: American Institute of Chemical Engineers, Regional Meeting, Mount Royal Hotel, Montreal, Que., Canada.

SEPTEMBER 8-10: American Pulp & Paper Mill Superintendents Ass'n., Inc., New York-Canadian Division, Champlain Hotel, Bluff Point, Plattsburgh, N. Y.

SEPTEMBER 9-12: National Ass'n. of Waste Material Dealers, Inc., 1949 Fall Meeting, The Sagamore, Lake George, New York.

SEPTEMBER 12-15: West Coast TAPPI Meeting, Multnomah Hotel, Portland, Oregon. For further details, write to V. A. Wise, Griffith Rubber Mills, 2439 N.W., 22nd Ave., Portland, Ore.

SEPTEMBER 12-16: Fourth National Instrument Conference & Exhibit, Municipal Auditorium, St. Louis, Mo. For details, write to Foxboro Co., St. Louis, Mo.

SEPTEMBER 16: Wallboard Conference, Northeastern Wood Utilization Council, Cambridge, Mass.

SEPTEMBER 21-23: Direct Mail Advertising Association, Inc., Annual Conference, Congress Hotel, Chicago. For details, write to Frank Frazier, Direct Mail Advertising Ass'n., Inc., 17 East 42nd Street, New York 17.

SEPTEMBER 22-24: American Pulp & Paper Mill Superintendents Ass'n., Fall Meeting, Poland Spring, Maine.

SEPTEMBER 26-29: National Paper Trade Ass'n., Fall Meeting, Stevens Hotel, Chicago, Ill. For further details, write to A. W. Chamberlain, Exec-Secy., National Paper Trade Ass'n., 220 East 42nd St., New York, N. Y.

OCTOBER 4-7: Fourth Annual Industrial Packaging & Materials Handling Exposition, Convention Hall, Detroit, Michigan. For further details, write to C. J. Carney, Jr., Managing Director, Soc. of Industrial Packaging & Materials Handling Engrs., 20 W. Jackson Blvd., Chicago 4, Ill.

OCTOBER 10-14: West Coast Meeting, American Society for Testing Materials. (First national meeting of ASTM on West Coast.) Fairmont Hotel, San Francisco, California.

OCTOBER 11-13: Society of American Foresters, National Meeting, Olympic Hotel, Seattle, Washington.

OCTOBER 14-15: South Eastern Division Superintendents Ass'n., Hotel Roanoke, Roanoke, Va.

OCTOBER 24-26: Southern Division Superintendents Ass'n., Frances Hotel, Monroe, La.

OCTOBER 24-28: National Safety Council, 1949 National Safety Congress, Chicago. For details, write to Harley B. Goodrich, National Safety Council, 20 North Wacker Drive, Chicago 6, Ill.

OCTOBER 31-NOVEMBER 2: Packaging Machinery Manufacturers Institute, 17th Annual Meeting, Edgewater Beach Hotel, Chicago, Illinois. For details, write to Package Machinery Manufacturers Institute, 342 Madison Ave., New York 17, N. Y.

OCTOBER 31-NOVEMBER 3: TAPPI Engineering Conference, Statler Hotel, Boston, Mass.

NOVEMBER 1-5: Pacific Chemical Exposition, California Section, American Chemical Society, San Francisco Civic Auditorium, San Francisco, Calif. For details, write to Marcus W. Hinson, exposition manager.

NOVEMBER 28-DECEMBER 3: 22nd Exposition of Chemical Industries, Grand Central Palace, New York, N. Y. For details, write to Charles F. Roth, Mgr., International Exposition Co., Grand Central Palace, N. Y. 17, N. Y.

DECEMBER 4-7: American Institute of Chemical Engineers, Annual Meeting, Pittsburgh, Pa.

FOREIGN

Japanese Paper Combine Broken Up

By Herbert Leopold

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Tokyo—The middle of July marked a fateful turning point in the 81-year-old history of the Oji Paper Mfg. Co., Ltd., one of the world's big pulp and paper makers. After decades of expansion, amalgamation and consolidation, Oji Paper did not escape General MacArthur's anti-monopoly directive. Many of the Japanese industrial combines which had been earmarked for dismemberment soon after the occupation, remained intact because technological integration in the interest of higher efficiency and lower cost was permitted by SCAP to continue. In fact, many small and inefficient firms were recently compelled to combine with their larger rivals at the sacrifice of their corporate individuality. But for the paper industry no such technological case could be made.

Even though Oji Paper had lost half of its mill capacity in World War II, either through territorial annexation or through bomb damage, the remaining capacity was thought to be too large to remain under a single tight control.

Three separate firms with widely diffused ownership were set up, each of them still powerful and, it is believed, individually as efficient as the combined setup. They are: (1) The Tomakomai Paper Mfg. Co., with mill at Tomakomai; (2) The Tosuji Paper

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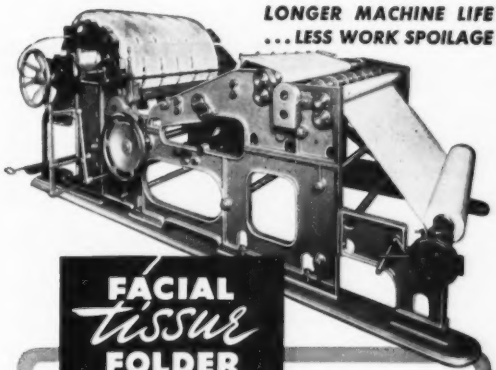

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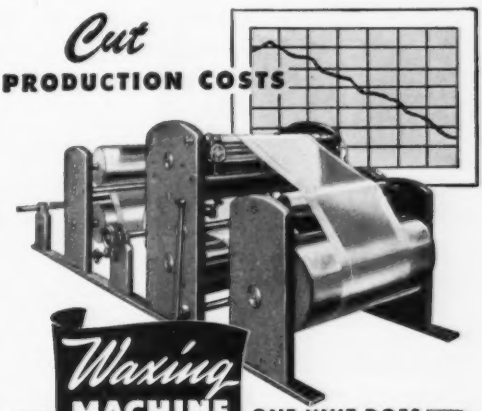

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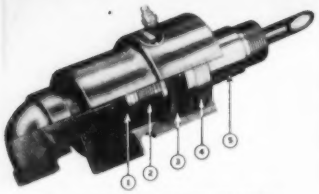

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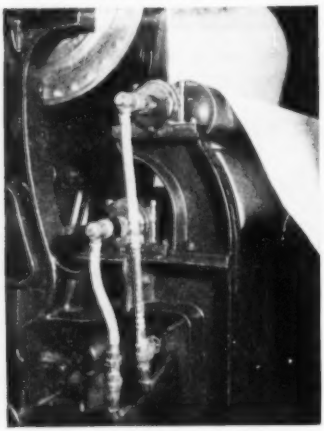

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PERFECTING SERVICE COMPANY
6140 Cottage Grove Ave., Chicago, Ill.

Mfg. Co., with mills at Kushiro, Kokura, Yatsushiro, Sakamoto, Tosuji, Fushigi and Toshima; and (3) The Honshu Paper Mfg. Co., with mills at Fuji, Kishibuchi, Nakatsu, Edogawa, Yodogawa, Kumano, and a chemical plant at Nagoya.

The Tomakomai mills have ten paper machines with a monthly capacity of 27,690,000 lbs. There are six sulphite pulp machines and 54 groundpulp machines with monthly capacities of 5,252,000 lbs. and 26,600,000 lbs., respectively.

The Tosuji mill has 26 paper machines with a rated monthly production ot 24,752,000 lbs. There are four sulphite machines with a combined capacity of 3,479,000 lbs. and seven grinders with an aggregate capacity of 3,276,000 lbs.

Honshu has 21 paper machines rating in all 13,286,000 lbs. a month. The pulp is supplied by five sulphite installations with a monthly capacity of 1,950,000 lbs. and two grinders capable of producing 10,681,000 lbs of newsprint pulp a month.

Thus the Oji combine, before it broke up, had 57 paper machines with a monthly capacity of 65,728,000 lbs., 15 sulphite pulp plants with a monthly capacity of 10,681,000 lbs., and 72 grinders with a monthly capacity of 34,114,000 lbs.

Through loss of its Saghalien mills to Russia, and through bomb damages in the 1942-1945 air raids, Oji Paper lost about half its annual prewar papermaking capacity of 1,575,000,000 lbs. The loss in sulphite pulp capacity, proportionately, was even higher. The Kushiro mill was damaged by fire last year, but has been largely rehabilitated.

There were, and still are, eight smaller paper making concerns, but in 1939 they accounted for only 20.08 percent of all Japanese paper production. Their share in the market has since remained about the same.

Among the outsiders, the Hokuetsu Paper Mfg. Co. still retains its dominant place. In 1938 it accounted for 4.11 percent of Japanese production. Monthly production of newsprint runs 4,000,000 lbs. The firm has a cardboard mill with a monthly production of 500 tons. The other three of its five plants produce rayon pulp and fibre board. The firm operates a small lignite mine with a monthly production of 1,500 tons.

Japanese production of paper pulp is ticking over at 50 percent of 1934-1936 averages. Paper production (not including Japanese-style paper) is only slowly getting away from the level of 30,000,000 lbs. a month which it first reached a year ago. Shortages of chemicals, coal, electric power and transport are the principal reasons for the slow recovery.

Though mills are operating at less than half their rated capacities, the paper industry is producing far below present-day Japanese cost parity and still makes good profits. If there were much paper available for export the industry would be a formidable competitor on world markets. Token shipments were made in the period when individual exchange rates were established for each Japanese commodity on the basis of its production cost. Paper was sold at 256 yen per U. S. dollar. Since April, Japan has had a uniform exchange rate of 360 yen per dollar, applicable to all commodities.

Though most manufacturing industries in Japan are crying out for a new rate of 500 yen or better, preferably combined with an import subsidy on raw materials, it is obvious that the paper industry is quite happy with 360 yen. For a long time, however, the demand of the home market will take preference over exports. While Japanese paper consumption in 1938 was 1,630,000,000 lbs., after setting in 1937 an all-time record of almost 2,000,000,000 lbs., this year's production, with luck, may touch 500,000,000 lbs. Japanese newspapers are still restricted to 68 pages (34 sheets) size 16" x 21½" a month.

Russia-Manchuria Trade Pact

LONDON, Eng.—The Soviet Union has signed a one year reciprocal trade agreement with the "Manchurian Peoples Democratic authorities," Moscow Radio said on July 31. The agreement was signed in Moscow, the broadcast added. The Manchurian delegation promised to supply Russia with soya beans, vegetable oils, maize and rice in exchange for Soviet paper and other products.

AWARDS . . . . .

NAVY AWARD MADE

N. Y. Navy Purchasing Office

Inv. No. 4560—Paper, Teletype, perforator—various, to:

Paper Manufacturers Co., Philadelphia, Pa.—397,800 rolls from: $.178 to $.2046 per roll. NOTE: Remaining purchases—small amounts.

Inv. No. 4876—Railroad Boards, coated both sides—various—39,600 pkgs. to Bulkley Dunton Co., Inc., New York, N. Y., from $2.022 to $5.051 per pkg.

Inv. No. 4942—Tape, adhesive—various—13,900 rolls to Chicago Show Printing Co., Mystik Adhesive Products, Div., Chicago, Illinois—13,000rolls from $2.05 to $2.46 per roll. NOTE: Remaining purchases—small amounts.

Inv. No. 5094—Paper, manifold, Chemical wood—approx. 16,410 reams to Walker Goulard Plehn Co., Inc., New York, N. Y.—16,380 reams from $.316 to $1.80 per ream., 1% 10 days. NOTE: Remainder to be placed elsewhere.

Inv. No. 5147—Mimeograph Stencils, 23,500 quires, to Polychrome Corporation, Yonkers, N. Y., at $.89 per quire.

Inv. No. 5146—Paper, printing, book, offset, 10,100 reams to Marquette Paper Co., Chicago, Illinois, at $2.50 ream—9,000 reams. NOTE: Remaining purchases—small amounts.

Inv. No. 5135—Paper, waxed, wet process, 295,000 lbs., to Fabricon Products of Conn., Inc., Bridgeport, Conn., at $.0988 per lb., 1% 20 days.

Inv. No. 5124—Paper Towels, 2,816,000, to White Washburn Co., Inc., New York, N. Y., 1,818,500 pkgs. at from $.0764 to $.096 per pkg.—*and to* Crown Zellerbach Corporation, Crown Willamette Paper Co., Div., San Francisco, Calif., 997,500 pkgs. at $.092 per pkg.

ICC Complaint No. 29952

By Edwin Chester Hastings

Recently an ICC *examiner* proposed in his report covering *Complaint No. 29952* of the Waldorf Paper Products Co., St. Paul, that the Commission should dismiss the firm's plea on the basis the allegations lack facts to prove a rail carrier had assessed unreasonable demurrage charges.

The Waldorf company seeks $1,700 reparation on the contention that car placement instructions were not properly followed by the switching carrier, the Minnesota Transfer Railway.

The examiner maintains that the paper company fails to offer proof on any car on which demurrage charges had been assessed as evidence to establish unreasonableness. To some extent his proposal was strengthened when the firm admitted they had failed to make daily track checks; no records were kept to offer proof. Delivery is made to the paper firm by a switching carrier who operates as an agent for several lines.

The complaint of the paper company also cited there are nine carriers from whom they receive inbound freight. These carriers deliver loads to the switching road and the latter in turn place with the paper firm.

Freight charges in most cases are not collected by a switching line and this is done by the line-haul carrier. The condition requires separate dealings with each road previous to delivery to the switching district, Minnesota Transfer Minn.

In the case of demurrage records this requires the company to handle reports separately with each road. To deal with one or two roads may not be a great task but to have nine carriers is a burden weary to bear, involving in this case. The firm sought for a single agreement with the switching road in order to apply all credits against debits regardless of what carrier delivered the freight.

The present arrangement wastes credits that could be used to wipe out debits. This results from having the different agreements. Under each one, the credits earned for releasing cars within out the first 24 hours of the free period can't be applied debits accrued on cars handled by another carrier.

The examiner maintained a single agreement couldn't be made in that the switching railway acts merely as an agent for the nine line-haul carriers serving the paper firm.

Canadian Carloadings

OTTAWA.—Revenue freight of woodpulp and paper loaded on the Canadian railways totaled 3,546 cars the week ended July 23 this year compared with 3,574 cars in the preceding week or 4,055 cars in the similar week of last year, the Canadian Government reports.

The Eastern Division accounted to 3,078 cars of woodpulp and paper in the week ended July 23 this year as against 3,108 cars in the previous week of 3,511 cars in the similar week a year ago, with the Western Division showing 468 cars in the week ended July 23, 1949, as compared with 466 cars in the previous week or 544 cars in the similar week of last year.

The cumulative total of such car loadings of woodpulp and paper from the beginning of 1949 until the week ended July 23 declined to 115,536 cars as against 125,081 cars a year ago in the corresponding period, with the Eastern Division accounting for 100,878 cars so far this year as against 109,354 cars a year ago in the same period and the Western Division for 14,658 cars as compared with 15,727 cars last year.

CL Paper Lining Rate Upped

The carload rating on *paper lining* will be advanced 10¼ percent, effective August 15, on shipments from Canada to Official Territory. The advance applies to: Paper carpet lining, including felt paper, plain, other than indented.

The present rail rating is 90 percent of 6th Class and this means 24.75 percent of the first class rate. The authority for the low rate is in the Exceptions to Official Classification, Jones' Tariff No. 130-C, ICC No. 3926, CTC No. 1918, Supplement 194, Item 6750-A.

The increase is in Supplement 208 to Jones' Exceptions, effective 8/15/49, and cancels the present rating. This means reverting to the Official Classification basis and that rating is Class 5 which is 35 percent of the first class rate.

Consolidated Freight Classification Changes

On August 20, certain changes important to the paper industry will be made in two rules of the Consolidated Freight Classification. The changes effect weight requirements and car orders on shipments in closed (box) cars.

In *Rule 24*, an addition will be made in Section 2 instituting a new minimum weight requirement on excess freight in a single shipment.

In *Rule 34*, Section 2 (a), a new condition of acceptance becomes effective on cars ordered by the shipper.

The amendments to these rules will have a general application throughout the country. The conditions of the weight requirements and the car orders are the same in each territory. There is a difference in minimum weights due to an Exception to the Official Classification that increases the excess requirement in Official Territory far above those of the South and West.

Rule 24

Rule 24 relates to freight in excess of a full carload. Excess freight is not a separate shipment. The term means more freight than can be loaded into one car. The definition of a shipment is "a lot of freight." The shipper fills the car and has an overflow or the balance of the order. How shall the overflow move? On carload or less-carload rates? The filled car moves on a carload rate and so will the "excess" for it is part of a single shipment. The shipper would be compelled to pay higher rates for the excess tonnage if the Classification did not make provision.

Excess freight is covered in the following of Rule 24:

Section 1—When carload freight (authorized minimum weight 30,000 pounds) is received in excess of the quantity that can be loaded in one car, the following shall apply. The shipment must be made from one station, by one shipper, in one calendar day running from midnight to midnight, on one shipping order or bill-of-lading, to one consignee and destination. Each car, except car carrying excess, must be loaded as heavily as loading conditions will permit, and each car so loaded charged actual or authorized estimated weight, subject to minimum carload weight, and at carload rate or rating applicable.

The excess freight is required to be marked or stenciled in that it may be carried with other less-carload shipments unless conditions of the overflow demand the entire capacity of another car.

Attention is directed to the fact that Rule 24 *does not apply* on *all* paper products. There are a number of paper items in the Classification where the carload minimum weight is less than 30,000 pounds; also, there are several paper articles with the rating subject to Rule 34. These two classes include many paper products that are light in weights (confetti is a good example), and those shipped set-up, such as boxes, pails, paper cups, etc. But there are a large number of products, such as pulp, newsprint and others, where the traffic is extremely heavy and their minimum is over 30,000 pounds, and this makes the shipments "in excess" subject to Rule 24.

The present reading of Rule 24, Section 2 is as follows: *"The excess over quantity that can be loaded in one car shall be charged at actual or authorized estimated weight, and at carload rate or rating applicable on entire shipment.*

The addition to this section, effective August 20 is: "subject to a minimum weight of 6,000 pounds. (Sup.24,CFC-$18,p.11)

The *present application* is that the excess (no minimum weight) travels in a separate car, even though the lading is far below the carload weight. The same carload rate that applies on the filled car also applies on the excess lading that could be classed less-carload and subject to higher rates.

The "6,000" minimum will apply in the South, West and certain parts of the East. Since July 15 there has been in effect 10,000 pounds minimum on the

excess freight in certain parts of Official Territory. (Jones' Tariff 130-C, Exceptions to Official Classification, Item 615, Sup. 210, p.34, effective 9/1/49.) This simply means on the excess tonnage the charges will be for 6,000 or 10,000 pounds regardless of the weight under the minimum. If the excess is under 3,000 it may be cheaper to ship separate under less-carload rates.

Rule 34

Rule 34 relates to "minimum carload weights." This rule, many times in the Classification and the Exceptions is listed with the required minimum weight, such as "24,000R." The "R" denotes "subject to Rule 34." The rule covers both open and closed cars, since paper is generally shipped in the latter, this information relates *only to box cars.* The meaning is that if the box car is less than 40'7" (inside length), the weight specified with the description of the article in the Classification and the Exceptions is the proper one to use. When the articles are loaded in box cars over 40'7" in length, then there are scales of minimum weights.

In Table I, herewith, note how the shipper can pay for excess tonnage. As an example, the article in the Classification requires a carload minimum of 10,000 pounds. The shipper loads 12,000 and pays for 16,200 or 20,000 pounds. The fault is due to not specifying "length of car needed" on the car order.

There is a condition in the Classification that if the shipper uses a closed car over 40'7" to load articles subject to Rule 34 without previous order for box length specified, the minimum weight will be that fixed for car placed by the carrier and used by the shipper.

"Car orders" are covered in Rule 34, Section 2 (a) that is, the part of the contract dealing with shipper's request for length, and the carrier's furnishing a car longer than desired. The paragraph will be changed to read: (Sup. 24, effective 8/20/49) *When shipper orders a closed car not less than 40'6" in length, and carrier is unable to furnish car of length ordered and furnishes longer car, minimum weight shall be that fixed for car ordered, except that when loading capacity of car is used, minimum weight shall be that fixed for car furnished. Notation must be on bill of lading: car length ordered and car length furnished.*

TABLE I
Minimum Carload Weights on Articles Subject to Rule 34

	The carrier will charge	
	(pounds) on cars 40' 7"/50' 6"	(pounds) on cars over 50' 6"
(pounds)		
10,000	16,200	20,000
11,000	17,820	22,000
12,000	19,440	24,000
13,000	21,060	26,000
14,000	22,680	28,000
15,000	24,300	30,000
16,000	25,920	32,000
18,000	29,160	36,000
20,000	32,400	20,000
22,000	35,640	44,000
24,000	38,880	48,000
26,000	42,120	52,000
28,000	45,360	56,000
30,000	48,600	60,000
36,000	58,320	72,000
40,000	64,800	80,000
Carload minimum weights not shown are figured—percentages of the base weight—	162%	200%

Absorption of Freight Changes*

By William T. Faricy
President, Ass'n. of American Railroads

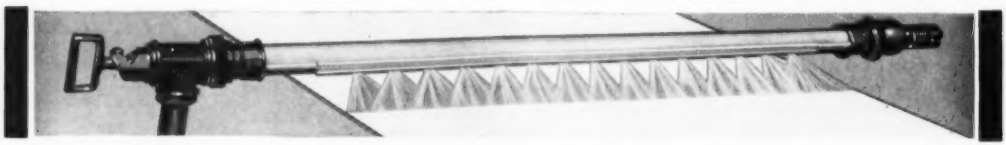
Use of transportation in most countries is restricted by the concept, how little can we get along with? In our country the idea is, how much transportation can we use to increase production, to enlarge output, to cut costs, to enrich life?

Every day in the year the railroads alone move 12 ton-miles of freight for every man, woman, and child in the United States. The theorist in transportation will say that not all this hauling is necessary. The theorist will tell you it is wasteful to move St. Louis shoes to Boston and Boston shoes to St. Louis; to move Baltimore beer to Milwaukee and Milwaukee beer to Baltimore; to move Kansas City steaks to Chicago and Chicago steaks to Kansas City. The theorist would have each producer restrict his sales to the trade area of his production, and would do it by the expedient of prohibiting absorption of freight charges. Well, let's see what we get into if the theorist's philosophy obtains.

Why is freight cross-hauled? I don't know all the reasons why—nobody does—for there are so many of them, variously combined in each individual case. But I do know that there *are* reasons, for most certainly nobody ships freight for fun. Nobody gives himself the pleasure of crating it up, and loading it and paying the charges, just for the fun of doing it. Shipping freight is not a game. It's a business, and for every shipment made, there is a reason, or more likely a whole complex of reasons adding up to one controlling fact, namely, that somebody thought that the freight shipped would have enough more value at destination than at point of origin to make it worthwhile to go to the trouble and pay the cost of shipping it. This is a good business reason so long as the business man is free to make up his own mind where and how he will ship and how much he will charge for his product at destination. And since it is *his* goods that are being shipped, and *his* money that pays for the movement, and *his* privilege to make a profit on the sale of the goods—if he can—and his responsibility to bear the loss if his judgment is wrong, doesn't it seem reasonable to let *him* say what he will charge and how he will go about figuring the price? Shouldn't it be *his* business to say whether he will absorb all or a part of the freight charges or pass them along in their entirety to his customer, if he can, just so long as he does not conspire with his competitors to fix prices?

. . . Even now, no one seriously proposes to restrict this free method of selling as a general practice in the conduct of business—except insofar as transportation costs may enter into the determination of prices. The seller may continue—insofar as the theorists in transportation are concerned—to make his prices in relation to the supply and demand of his product, to the prices of his raw materials, to the cost of manu-

* Extract from address thus titled, before the Chamber of Commerce of Kansas City, Mo.



ANNOUNCING—Clark and Vicario Company, 683 3rd Ave., New York 17, N. Y. is now our representative for Sandusky Shower Pipes in the following territory: East of the Rocky Mountains with the exception of Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut East of the Connecticut River.

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★ ★ ★ SANDUSKY OHIO, U. S. A. ★ ★ ★

facture, to taxes, rent, insurance, interest charges, overhead of every character, and even to the transportation charges he pays on his inbound raw materials—but, according to these theorists he must not take account of the outbound freight charges upon his finished product. According to them, he must sell FOB mill, if he is to avoid the suspicion of collusion, and must let the consignee worry about the freight charges. As to whether he is actually subject to suit if he absorbs freight charges, on his own, without conspiring with competitors, not only the lawyers but also the government officials themselves disagree—there is almost a confusion of tongues, so to speak, on this subject.

If it should turn out to be the law that no systematic absorption of freight charges is to be permitted—and that delivered pricing even in individual instances is subject to risk—the effect upon the structure of the economy would be profoundly disturbing.

The great productive capacity of this country has been built—and the transportation plant has been built—not upon the basis of the use of transportation only under the compulsion of niggardly necessity, but on the basis of its abundant use. The abundant use of transportation has made possible national opportunities for producers, and nationwide choices for consumers. These have created the American marvel of mass production, and this industrial marvel of the world could not be sustained without a continuation of national markets. In individual instances, there may be wasteful hauls. If so, they are the result of errors of judgment which are subject to the self-correction of results—the unrelenting testing of the market place.

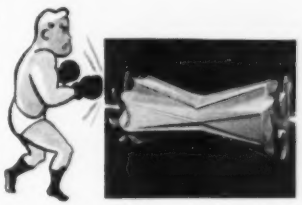
But to limit artificially—as is proposed from time to time—the range within which a business may operate, is to do more than merely to limit that particular business. Such artificial limitation would result in the economic loss of junking plants built to serve great areas. It would create both economic and social dislocations. It would create uncertainties as to what would and what would not be permitted under such a policy of artificial limitation of transportation. It would limit the freedom of action and of choice which is the basis of our American large-scale production and widespread consumption.

Such artificial limitations upon the use of transportation would, in time, do even more. They would bring about the atrophy, more or less complete, of the very transportation systems which are one of the secrets of our national strength. The strongest muscles, when not exercised, wither and decay, and the complex mechanism of transport, if not used, would rust out. This is not to suggest transportation just to be transporting things—but then that doesn't happen to any significant degree because, and I repeat, nobody ships freight for fun. But it is a fortunate fact that in our daily peacetime operations we *do* ship, by the various means of transport, enough to keep our transport agencies vigorous.

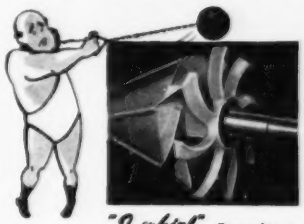
It is a further fortunate circumstance that the cost of using our transport facilities is so little. Of course, we hear the words high freight rates—sometimes pronounced almost as if they were one word, highfreightrates—but actually the cost of transportation, and particularly of rail transportation, in this country is neither high nor burdensome. It is true that rail freight rates are higher in dollars and cents now than they were before the recent war. But when measured against the average value of the goods transported, rail freight rates are not only lower now than they were before the war, but in this post war period are less than they have been since the Interstate Commerce Commission's Bureau of Transport Economics and Statistics has been keeping figures on the subject.

Because transportation in America is so cheap, it is used abundantly. And the converse is equally true. Transportation in this country is produced more cheaply because it *is* so abundantly used. In our transportation operations, we have applied the law of increasing returns—doing more and more for a smaller and smaller proportion of the total national production or income.

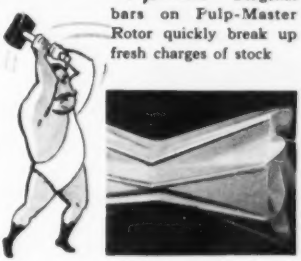
4-way PULPING POWER!



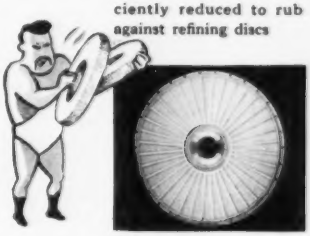
"I pound" Diagonal bars on Pulp-Master Rotor quickly break up fresh charges of stock



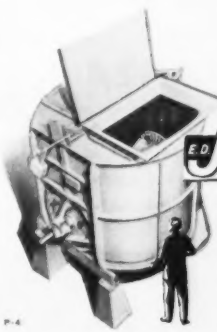
"I whirl" Impellers agitate stock until sufficiently reduced to rub against refining discs



"I slam" Cone shape of Pulp-Master Rotor forces stock violently against sides of tank



"I grind" Refining discs at sides of tank have radial bars against which stock is rubbed by impellers



Not just a swish or swirl, but a pounding, slamming, whirling, rubbing action that completely disintegrates new pulp, waste-paper, machine broke — even glassine and wet-strength — in 10 to 40 minutes.

Four sizes, from 500 to 4000 lbs., at 6½% density. Available for batch or continuous operation. Write for Bulletin EDJ-1019-A — or arrange to see the Pulp-Master in action on your own stock.

E.D. Jones

PULP-MASTER

E. D. JONES & SONS COMPANY • PITTSFIELD, MASS.
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

P-4

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1949		Corresponding Weeks—1948	
June 25	83.9	June 26	99.8
July 2	79.7	July 3	91.3
July 9	44.7	July 10	62.3
July 16	76.3	July 17	87.1
July 23 (Revised)	83.2	July 24	103.1
July 30	84.7	July 31	96.5

COMPARATIVE MONTHLY SUMMARIES

1948						1949	
Jan.	100.1	May	100.5	Oct.	99.1	Jan.	94.6
Feb.	99.8	June	95.7	Nov.	97.1	Feb.	92.8
Mar.	100.8	July	85.3	Dec.	87.1	Mar.	89.1
Apr.	100.8	Aug.	96.8			Apr.	85.1
		Sept.	91.8	Year Avg.	96.2	May	82.7
						June	80.9
						July	172.2

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

	1942	1943	1944	1945	1946	1947	1948	1949
Year to Date	94.8	87.8	87.8	88.1	99.5	103.6	97.6	85.4
Year Average	90.4	87.8	88.1	89.4	101.1	104.3	96.2	

PAPERBOARD OPERATING RATIOS†

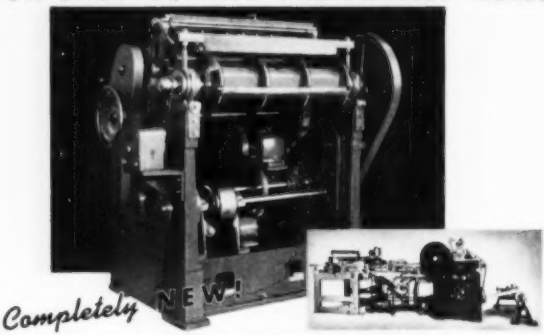
Current Weeks—1949		Corresponding Weeks—1948	
June 25	80	June 26	97
July 2	75	July 3	89
July 9	35	July 10	56
July 16	64	July 17	84
July 23	76	July 24	91
July 30	80	July 31	92

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1948	99	100	102	102	100	94	81	92	91	96	94	84	95
1949	88	85	79	79	78	75	64						

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

FOR SPOT CUTTING PRE-PRINTED ROLLS



SMITH & WINCHESTER

ROTARY SPOT CUTTER

For precision register and accurate spot cutting of pre-printed traveling webs at a high rate of production. This high speed rotary cutter can be equipped with photo-electric compensator or may be manually controlled. Save time, eliminate waste and increase production with this modern S & W equipment. Built in 40", 50", 60", 71" and 83" widths. May be furnished with lay boy and stacker as illustrated. *Write for detailed information!*

THE SMITH & WINCHESTER MFG. CO.
SOUTH WINDHAM, CONNECTICUT
Paper and Paper Bag Machinery Since 1828

OBITUARIES . . . .

Harold C. Harvey, 58, president and general manager of the Harvey Paper Products Co., Sturgis, Mich., died on July 17 at Blodgett Memorial Hospital in Grand Rapids after a long illness. With his father, the late Alfred Harvey, he organized the company in 1923 at Appleton, Wis. In 1926 the plant was moved to Sturgis where it has been associated with the Kalamazoo Vegetable Parchment Co. of Kalamazoo. Mr. Harvey is survived by a widow, Mrs. Mary P. Harvey.

Van Rensselaer Walden, 55, a director and vice-president of Walden, Sons & Mott, New York City, died at his home in Glen Rock, N. J., on July 28 following a protracted illness. Surviving are his widow, Mrs. Adalene Allison (Booraem) Walden; a son, Robert B.; two daughters, Mrs. Stewart Moore and Miss Joan Walden; two brothers, Tom and Charles C., Jr.; and a sister, Mrs. Alvah Reed.

Max Bernhard, 68, founder of the M. Bernhard Paper Box Corp., Rochester, N. Y., died at his home in that city on July 31, following a brief illness. Surviving him are his widow, Mrs. Esther Bernhard; a daughter, Mrs. Herman Ruderman; a son, Robert; and two sisters, Mrs. Mary Kurtz and Mrs. Jack Goldman.

Richard F. Williams, 59, a foreman printer of the Brown & Bailey Co., Philadelphia paper box manufacturer, died of a heart attack at his home on August 1. Surviving are his widow, Mrs. Mary C. Hair Williams; three brothers, Frank, Lawrence and Joseph; and two sisters, Lois and Nellie.

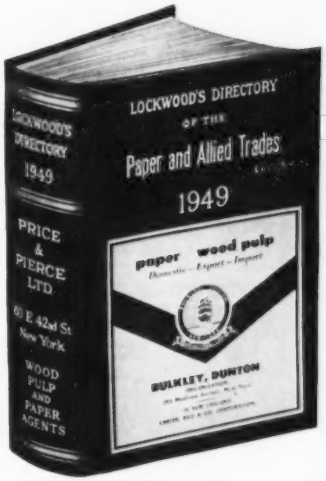
Harry P. Vogt, 55, vice-president and western manager of Walden, Sons & Mott, Inc., died of a heart attack while in his office at 343 South Dearborn street, Chicago, on August 3. Surviving are his widow, Mrs. Margaret C. Vogt; also a son and a daughter by a previous marriage.

George F. Schooles, 44, for 20 years an employe of the W. C. Hamilton & Sons, Inc., paper mill, Miquon, Pa., died at his home in that city on August 4. Surviving are his widow, Mrs. Jean Schooles; two daughters, a son, his parents and a brother.

Stanley Tilton, 68, a veteran of 51 years' service with the Howard Smith Paper Mills, Cornwall, Ont., died at his home following an illness of three weeks. Surviving, besides his widow, are three daughters and one son.

Francis F. Huyck, 44, president of F. C. Huyck & Sons, manufacturer of papermakers blankets and felts, died recently at his home in Albany, N. Y., of a heart attack.

1949 EDITION



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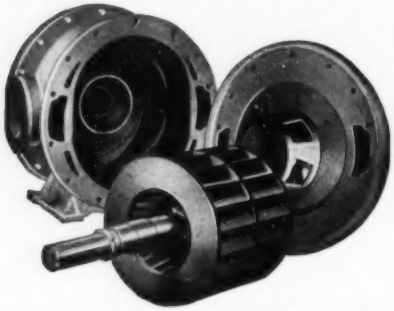

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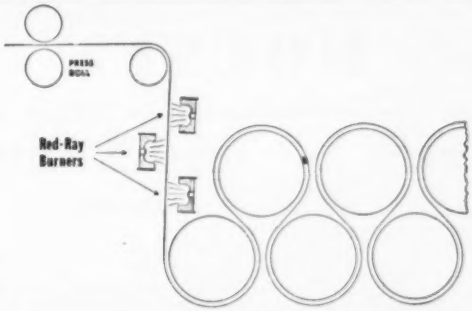

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HELP WANTED

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SITUATIONS WANTED

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SITUATIONS WANTED

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30 years of practical experience

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1—1000 lb. Economy with motor

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2—66 x 54 Jones iron tub, stainless steel bars
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100"—82"—74"—60"

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1—12 ft. x 132" Yankee
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8—60" x 174"
3—48 x 126"
3—48 x 118"
4—48 x 120"
1—42 x 126"
34—36 x 60"
21—36 x 78"
2—42 x 73"
2—48 x 73"
16—36 x 62"
15—48 x 46"
4—84 x 40"
7—30 x 30"

EMBOSSERS
45" Dornbusch
30" Waldron
26" Textile, three sets rolls

MOULDS
2—42 x 121"
8—36 x 126"
7—30 x 102"
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2—36 x 92"
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1—48 x 84"
4—30 x 78"
2—36 x 40# De-linker with vats, etc., rubber couch

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1—#2 Appleton
1—New Mammoth Jr.
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Extra slitting units available.

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34" Beck Sheeter, one year old.
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60" Hamblet Sheeter, single knife, with 3 sets of slitters, Erie Layboy and 10-roll double deck Back-stand, and shafts.

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WOOD GRINDING MACHINERY
TO PRODUCE 100 TONS
WET PULP PER WEEK.
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WAXER POTDEVIN STEAM 60 to 72". 14" Steel Bottom Roll, 10" top Rubber Roll—with Reliance Drive—with or without 24 h.p. motor.

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1—5' Carthage Disc Barker

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1—800 lb. Beater—iron tub.

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2—96" Murray 4 knife Chippers.

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2—Noble and Wood—Mammoth Type
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2—5 h.p. ball bearing—splash proof motors —3/60/440. 1160 r.p.m.
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Various sizes.

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1—3 color 40" Rotary Cottrell Printing Machine, A-1 condition, provision for 2 more colors.

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Various sizes of Centrifugal and Plunger Pumps. Write us regarding your particular requirements.

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1—72" Beloit Reel.

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500—Brass tube-steel tube—rubber covered iron rolls—various sizes.

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1—#2 Bird Rotary Screen.
1—#2A Bird Rotry Screen.

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1—Pusey & Jones Saveall. Cylinder mold 42 x 146, anti friction bearings, including rubber covered couch roll.
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20 Plates cut .016.
10 Plates cut .008.
Also other sizes and cuts in stock.

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1—136" Moore & White Sheeter, duplex, with laybov

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1—208" Cameron—Type 20.
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1—50" Cameron—Type 24-2L
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1—42" Cameron—Type 9-5.
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1—115" 2 drum Waldron

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1—Rubber Squeeze Rolls, 20¾" diameter x 102" face.

STOCK PUMPS
1—10 x 20 Shartle Duplex.
4—7 x 16 Shartle Duplex.
Numerous other Centrifugal Stock Pumps. Advise as to your requirements.

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5—Suction Boxes, 82" drilled face x 6" wide.

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1—24⅞" diameter x 160" drilled face.
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1—Couch Roll 22" diameter x 12'9¾" face.

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1—Downingtown Suction Press Roll 24" diameter x 110" face.

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1—29¾" diameter x 134" drilled face.

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1—54" 9 roll supercalender stack, completely rebuilt including motors, etc.

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40—Table Rolls 82" face x 3" diameter.

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2—Dietz 81" Toilet & Towel Machines.

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1—56" Smith & Winchester—Undercut.

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2—Proctor & Schwartz Tunnel Dryers, 10 ton and 5 ton capacity.

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1—150 h.p. Westinghouse Type C-Gear Turbine (Recently rebuilt).

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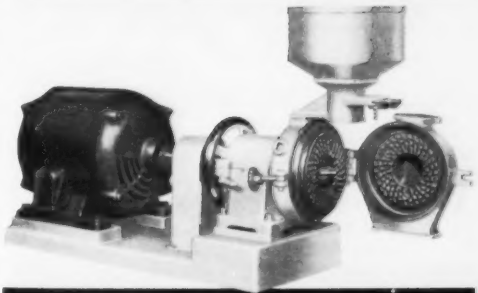

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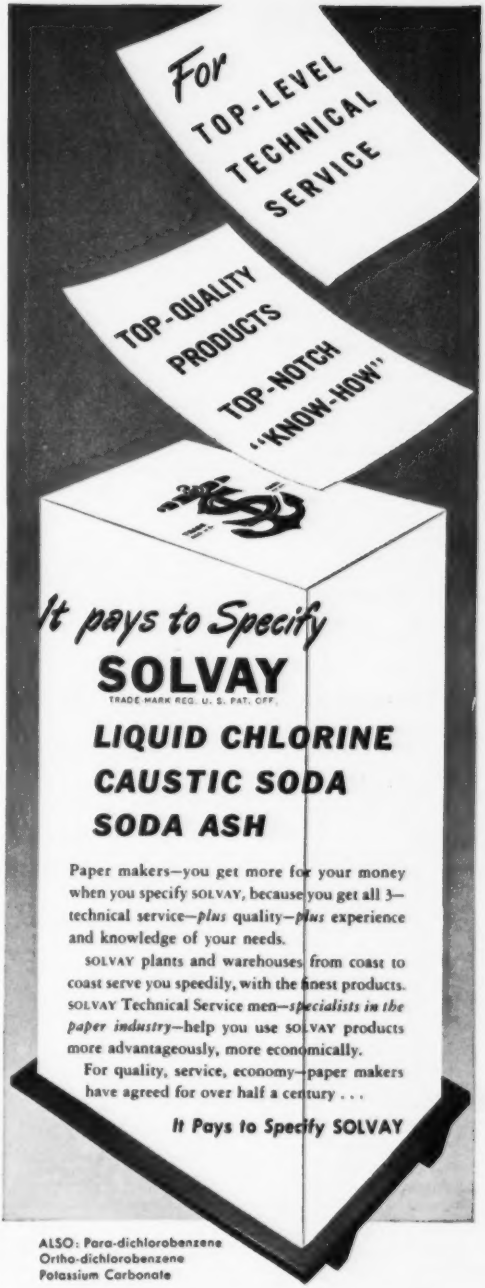
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The Wellman Engrg. Co.

MICROMETERS & CALIPERS
E. J. Cady Co.
Farrel-Birmingham Co.
Montague Machine Co.
Lobdell Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

MOISTURE CONTENT CONTROL
Askania Regulator Company
Midwest-Fulton Machine Co.
Stickle Steam Specialties Co

MOTORS AND GENERATORS
Allis-Chalmers Mfg. Co.
Chicago Electric Company
Fairbanks, Morse & Co.
General Electric Company
Ingersoll Rand Co.
Reliance Electric & Engrg. Co

NICKEL AND NICKEL ALLOYS
The International Nickel Co.

NOZZLES
Link Belt Company

PACKING BOXES
Johnson Corporation
The Moore & White Co.
Perfecting Service Corp.
Shartle Brothers Machine Co

PAINT
American Marietta Co., Valdura Division

PAPER MACHINES
Bagley & Sewall Co.
Black-Clawson Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc
Thomas W. Hall Co.
Lukenweld
Moore & White Co.
Pusey & Jones Corp
J. O. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co
Smith & Winchester Mfg. Co

PAPER MACHINE SLICES
Black-Clawson Company
E. D. Jones & Sons Co.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Valley Iron Works Co.

PAPER TUBE MACHINERY
Dietz Machine Works
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson Sharp Machine Co
Langston Co., Samuel M
Suburban Machine Co.

PASTING MACHINES
Black-Clawson Company
Davis, Frank H., Co.
Dilts Machine Wks.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc
Murray, D. J., Mfg. Co.
Moore & White Co.
Potdevin Machine Co
Shartle Brothers Machine Co
Waldron Corp., John

PENSTOCKS
The Biggs Boiler Works Co

PERFORATED METAL
Allis-Chalmers Mfg. Co.

PIPE
American Cast Iron Pipe Co.
Armco Drainage & Metal Products, Inc.
Babcock & Wilcox Co.
Crane Company
Michigan Pipe Co.
Michigan Steel Casting Co
National Tube Co.
Walworth Company
Youngstown Welding & Engrg. Co.

PIPE FITTINGS
American Cast Iron Pipe Co.
The American Rolling Mill Co.
Crane Company
Ladish Company
Michigan Steel Casting Co
Phoenix Products Co.
Walworth Co.

PIPE MARKERS
W. H. Brady Co.

PITCH CONTROL
General Dyestuff Corp.
Monsanto Chemical Company
Rohm & Haas Co.

PLATERS
Gibbs-Brower Company, Inc
Perkins & Son, Inc., B. F.

PLATES
Armco Steel Corp.
Babcock & Wilcox Co.
The Biggs Boiler Works Co
J. O. Ross Engrg. Corp.
Lukenweld
Lukens Steel Company
Timken Roller Bearing Co.

PLUGS
The Appleton Machine Co
Black-Clawson Company
E. D. Jones & Sons Co.
Shartle Brothers Machine Co

PRECISION SAMPLE CUTTER
Testing Machines, Inc.

PRESERVATIVES
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.

PRESSURE VESSELS, STEEL AND ALLOY
William Allen Son's Company
Babcock & Wilcox Co.
The Biggs Boiler Works Co
Combustion Engrg. Co., Inc.
Foster Wheeler Corp.
The Midvale Company

PRESSES
Black-Clawson Company
Dietz Machine Works
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc
Thomas W. Hall Co.
Hudson-Sharp Machine Co.
The Moore & White Co.
Paper Converting Machine Co., Inc.
Potdevin Machine Co.
Shartle Brothers Machine Co
Valley Iron Works Co
Waldron Corp., John H. G. Weber & Co., Inc
Williams Apparatus Co.

PULP CLASSIFIER
The Bauer Bros. Co.

PULP STOCK VALVES
Crane Company
Record Fdy. & Mach. Co
Shartle Bros. Mach. Co.

PULPERS
American Paper Mchy. & Engrg. Works, Inc.
Bauer Brothers Co.
Dilts Machine Works
E. D. Jones & Sons Co.
Midwest-Fulton Machine Co.
Shartle Brothers Machine Co

PULPS
Brown Company
Bulkley, Dunton Pulp Co., Inc
Gotteraan & Co., Inc.
Elof Hansson, Inc.
Lyddon & Co. (America), Inc
Parsons & Whittemore, Inc

Perkins-Goodwin Co.
Price & Pierce, Ltd.
Pulp and Paper Trading Co.
Pulp Sales Corp.

PULPSTONES

Norton Company

PUMPS

Allis-Chalmers Mfg. Co.
American Manganese, Steel Div.
Black-Clawson Company
Buffalo Pumps, Inc.
Byron Jackson Co.
DeLaval Steam Turbine Co.
Dorr Company
Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Frederick Iron & Steel, Inc.
Gibbs-Brower Company, Inc
Ingersoll-Rand Co.
Johnson Corp.
Moore & White Co.
Nash Engineering Co.
Paper Converting Mch. Co
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Warren Steam Pump Company

RADIANT BURNERS

Red-Ray Mfg. Co., Inc.

RAG COOKING PROCESSES

Adell Chemical Co.
William Allen Son's Company
The Kinsley Chemical Company
General Dyestuff Corp.
Rohm & Haas Co.

RAG CUTTERS

Gibbs-Brower Company, Inc
B. F. Perkins & Son, Inc.
Taylor-Stiles & Co.

RECAUSTICIZING PLANTS

The Dorr Company

RECOVERY SYSTEMS

William Allen Son's Company
Babcock & Wilcox Co.
Bulkley, Dunton Pulp Co., Inc.
Rodney Hunt Machine Co.
Moore & White Co.
D. J. Murray Mfg. Co.
Pusey & Jones Corp.
Ross Engineering Corp., J. O.
Valley Iron Works Co.

REELS

The Appleton Machine Co.
Black-Clawson Company
Dilts Machine Works (Kohler System)
Downingtown Mfg. Co.
Hudson Sharp Machine Co.
Moore & White Co.
Paper Converting Mch. Co
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

REFINERS

Appleton Machine Co.
Bahr Brothers Mfg. Co.
Bauer Brothers Co.
Dilts Machine Works
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Midwest-Fulton Machine Co.
Morden Machines Co.
Murray, D. J., Mfg. Co.
Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Sutherland Refiner Corp.
Valley Iron Works

REGULATORS

Allis-Chalmers Mfg. Co.
Armstrong Machine Works
Bird Machine Company
The Bristol Company
DeZurik Shower Company
The Foxboro Company
General Electric Co.
Johnson Corp.
Leeds & Northrup Company
Midwest-Fulton Machine Co.
Minneapolis-Honeywell Regulator Co.
National Technical Laboratories
Shartle Brothers
Stickle Steam Specialties Co.
Taylor Instrument Companies
Wallace & Tiernan

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Timber Engrg. Co.

RESINS

American Cyanamid Company, Industrial Chemicals Division
The Dow Chemical Company
The Goodyear Tire & Rubber Company
Hercules Powder Co.
Monsanto Chemical Company
Rohm & Haas Co., Resinous Products Div.

ROLLS

American Cast Iron Pipe Co.
Appleton Machine Co.
Black-Clawson Company
Downingtown Mfg. Co.
Frank W. Egan & Co.
Farrel-Birmingham Co.
Gibbs-Brower Company, Inc.
Lobdell Co.
Edward J. McBride
The Midvale Company
The Moore & White Co.
D. J. Murray Mfg. Co.
Perkins, B. F., & Sons Co.
Philbrick Engrg. Corp.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Co.
Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John
The Youngstown Welding & Engrg. Co.

ROLL COVERS

The Cincinnati Rubber Mfg. Co.
The Goodyear Tire & Rubber Company
Edward J. McBride
Stowe-Woodward, Inc.

ROLL HANDLING EQUIPMENT

Dilts Machine Works (Kohler System).

ROLL STANDS

Cameron Machine Co.
Frank W. Egan & Co.
Moore & White Co.
Potdevin Machine Co.
John Waldron Corp.
H. G. Weber & Co., Inc.

ROPE CARRIERS

The Moore & White Co.

ROTARY BOILERS

The Biggs Boiler Works Co.

ROTARY STEAM JOINTS

Johnson Corp.
The Moore & White Co.
Perfecting Service Corp.

RUBBER PRODUCTS

The Goodyear Tire & Rubber Company

SATURANTS

American Anode Div., The B. F. Goodrich Chem. Co.

SATURATING MACHINES

Black-Clawson Company
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

SAVEALLS

Bird Machine Company
Hardinge Company

SCALES

Fairbanks, Morse & Co.
Merrick Scale Mfg. Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

SCREEN PLATES

Bird Machine Company
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Testing Machines, Inc.

SCREENS

Allis-Chalmers Mfg. Co.
American Paper Mchy. & Engrg. Works, Inc.
Appleton Wire Works
Appleton Machine Company
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Link Belt Company
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

SHEET MACHINES

Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Suburban Machine Co.
Valley Iron Works Co.

SHOWER PIPES

Bird Machine Company
DeZurik Shower Company
Downingtown Mfg. Co.
Moore & White Co.
Sandusky Fdy. & Mch. Co.
Shartle Bros. Mach. Co.
Smith & Winchester Mfg. Co.

SHREDDERS

Bauer Brothers Co.
Carthage Machine Co.
Gibbs-Brower Company, Inc.

SIZING

American Cyanamid Company, Industrial Chemicals Division
Black-Clawson Company
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
Glidden Company
Hercules Powder Co.
The Hubinger Co.
Monsanto Chemical Company
National Aluminate Corp.
Philadelphia Quartz Co.
Stein-Hall Co., Inc.

SIZING TESTER

W. & L. E. Gurley
Testing Machines, Inc.

SLIME CONTROL

W. A. Cleary Corp.
The Dow Chemical Company
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.
Monsanto Chemical Co.
National Aluminate Corp.
Rohm & Haas Co.

SLITTERS

Black-Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Dietz Machine Works
Dilts Machine Works
Downingtown Mfg. Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson Sharp Machine Co.
Langston Co., Samuel M.
Machinery & Prod. Engrg. Corp.
Moore & White Co.
D. J. Murray Mfg. Co.
Potdevin Machine Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

SMOKE STACKS

William Allen Son's Company
The Biggs Boiler Works Co.

SPECIAL MACHINERY

Dilts Machine Works.

SPLICING TISSUE

Williams-Gray Co.

SOFTNESS-STIFFNESS TESTER

W. & L. E. Gurley
Testing Machines, Inc.

SOLUBLE OILS

Adell Chemical Company
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Nopco Chemical Co.

SOLVENTS

Adell Chemical Company

STAINLESS STEEL

American Cast Iron Pipe Co.
Armco Steel Corp.
Michigan Steel Casting Co.
The Midvale Company
U. S. Steel Corp.

STARCH

American Cyanamid Company, Industrial Chemicals Division
A. M. Meincke & Sons, Inc.
Clinton Industries, Inc.
The Hubinger Co.
National Starch Products Inc.
Stein-Hall Co., Inc.

STEAM JOINTS

The Moore & White Co.

STEAM SPECIALTIES

Babcock & Wilcox Co.
Cochrane Corp.
Combustion Engrg. Co., Inc.
Davis Engrg. Corp.
Johnson Corp.
Midwest-Fulton Machine Co.
Perfecting Service Corp.
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.

STEEL

Allegheny Ludlum Steel Corp.
Armco Steel Corp.
Carnegie Illinois Steel Co.
Lukens Steel Company
Midvale Company
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works
U. S. Steel Corp.

STEEL, CLAD

Babcock & Wilcox Co.
Lukens Steel Company

STEEL TANKS

William Allen Son's Company
The Biggs Boiler Works Co.

STRAPPINGS & STRAPPING MACHINES

The Stanley Works

STUFF CHESTS

Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Midwest-Fulton Machine Co.
Moore & White Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

SUCTION BOXES

Black-Clawson Company
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

SUCTION UNIT

Paper & Industrial Appliances, Inc.

SULPHUR

American Cyanamid Company, Industrial Chemicals Division
Texas Gulf Sulphur Co.
Witco Chemical Company

SULPHUR BURNERS

Valley Iron Works Co.

SULPHUR DIOXIDE

American Cyanamid Co., Calco Chemical Div.
Ansul Chemical Company
Virginia Smelting Co.

SUPERCALENDERS

The Appleton Machine Co.
B. F. Perkins & Son, Inc.

SYNTHETIC LATICES

American Anode Div., The B. F. Goodrich Chem. Co.
The Goodyear Tire & Rubber Company
Nopco Chemical Co.

TACHOMETERS

The Brown Instrument Co.

TAKE-OFF UNITS

Dilts Machine Works (Kohler System).

TALC

American Cyanamid Company, Industrial Chemicals Division
W. H. Loomis Talc Corp.

TANKS

William Allen Son's Company
The Biggs Boiler Works Co.
Cochrane Corp.
Kalamazoo Tank & Silo Co.
The Noble & Wood Machine Co.
B. F. Perkins & Son, Inc.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co.
Waldron Corp., John

WHERE TO BUY

TEARING TESTERS
Testing Machines, Inc.

TENSILE TESTERS
B. F. Perkins & Son, Inc.
Testing Machines, Inc.

THICKENERS, DECKERS AND SAVEALLS
The Appleton Machine Co.
Bird Machine Company
Bulkley, Dunton Pulp Co., Inc.
Carthage Machine Co.
Dilts Machine Works
Dorr Co.
Downingtown Mfg. Co.
Hardinge Co., Inc.
Moore & White Co.
D. J. Murray Mfg. Co.
Oliver United Filters, Inc.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

TIMBER ROOF TRUSS DESIGNS
Timber Engrg. Co.

TITANIUM
American Cyanamid Co., Calco Chemical Div.
E. I. du Pont de Nemours & Co.
Titanium Pigment Co.
R. T. Vanderbilt Co.
Witco Chemical Company

TOOLS
The Stanley Works
Walworth Company

TRACTOR SHOVELS
Frank G. Hough Co.

TRACTORS & TRUCKS
Frank G. Hough Co.
Towmotor Corp.
Clark Equipt. Co., Clark Tractor Div.

TRANSMISSIONS
Link Belt Company

TRAPS
Armstrong Machine Works
Cochrane Corp.
Crane Co.
Johnson Corporation
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co

TUBES
Babcock & Wilcox Co.
National Tube Co.

TUBING MACHINES
Dilts Machine Works.

TUBING, MECHANICAL
National Tube Co.

TUBS
Rodney Hunt Machine Co.
Shartle Brothers
Valley Iron Works Co.

TURBINES
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Company
Hunt, Rodney, Mach. Co.

TURPENTINE RECOVERY
Foster Wheeler Corp.

UNWINDERS
Dilts Machine Works (Kohler System).

USED EQUIPMENT
Frank H. Davis Company
Gibbs-Brower Co.
Thomas W. Hall Co.
J. J. Ross Company
Ross Paper Machy. Corp.
Shartle Brothers Machine Co.
Suburban Machine Co.

VALVES
Askania Regulator Co.
The Bristol Company
The Brown Instrument Co.
Cochrane Corp.
Crane Company
Dilts Machine Works
The Foxboro Company
E. D. Jones & Sons Co
Magnus Metal Corp.
D. J. Murray Mfg. Co.
William Powell Co.
Record Fdy. & Mch. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Trimbey Mach. Wks.
Valley Iron Works Co
Walworth Company

WASHERS
Bird Machine Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Moore & White Co.
Oliver United Filters
The Sandy Hill Iron & Brass Wks.
Rodney Hunt Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

WASTE TREATING EQUIPMENT
Alhydro, Inc.
The Dorr Company

WATER CONDITIONING
Alhydro, Inc.
Calgon, Inc.
Cochrane Corp.
General Dyestuff Corp
Hungerford & Terry, Inc.
National Aluminate Corp.

WATER DISPERSIONS
Alhydro, Inc.
American Anode, Inc.
Rohm & Haas Co., Resinous Products Div.

WATER FINISH EQUIPMENT
Dilts Machine Works.

WAXES
Hercules Powder Co

WAXING MACHINERY
Black-Clawson Co.
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc
The Mayer Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co
Waldron Corp., John
Weber, Herman G.

WEB TENSION CONTROL
Dilts Machine Works (Kohler System).

WELDING EQUIPMENT
General Electric Company
Walworth Company

WET MACHINES
Black-Clawson Co.
Carthage Machine Co.
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc
Moore & White Co.
Pusey & Jones Company
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co
Valley Iron Works Co.

WETTING AGENTS
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Hercules Powder Co.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

WHITE WATER HEATERS, AUTOMATIC SELF CLEANING TYPE
Davis Engineering Corp.

WINDERS AND REWINDERS
The Appleton Machine Co.
Black-Clawson Company
Cameron Machine Co.
Dietz Machine Works
Dilts Machine Works (Kohler System)
Downingtown Mfg. Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson-Sharp Mach. Co.
Langston Co., Samuel M.
Moore & White Co.
Paper Converting Mch. Co
Potdevin Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Suburban Machine Co.
Waldron Corp., John

WINDING ROLL CHANGERS
Dilts Machine Works (Kohler System).

WIRE BRUSHES
M. W. Jenkins Sons Inc.

WIRES
Appleton Wire Works
Bulkley, Dunton Pulp Co., Inc
International Wire Works
Lindsay Wire Weaving Co
Williams-Gray Co.

WIRE BRUSHES
Williams-Gray Co.

WOOD SPLITTERS
The Appleton Machine Co
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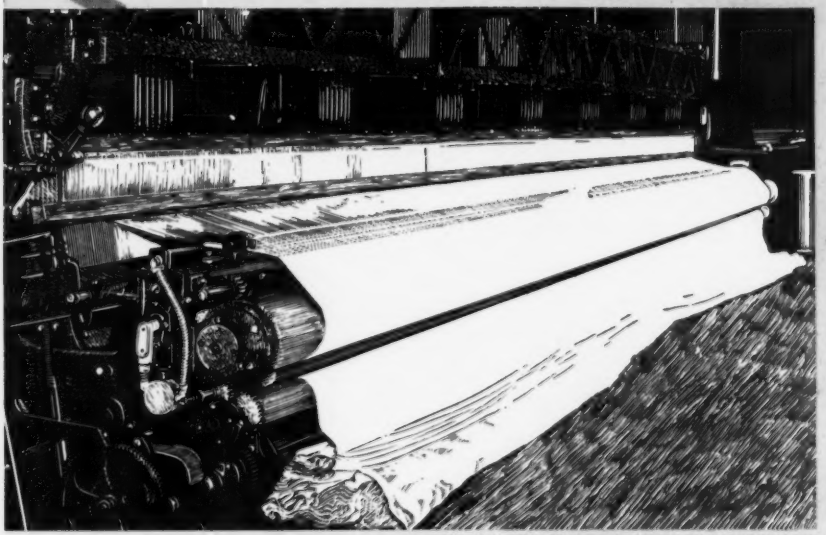

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